Consumer Reports

"FACTS YOU NEED BEFORE YOU BU

VOL. 8, NO. 4 *Published Monthly by Consumers Union* APRIL 194

RATINGS O

CHILDREN'S SHOE

OLEOMARGARIN

GARDENING FOR VICTORY

INFANT FOODS

CARE OF YOUR ELECTRIC CORDS

WHAT CAUSES "FOOT TROUBLE"

NICKEL CANDY

WHAT HAS RATION STAMP NO. 17 TO DO WITH CONSUMERS UNION?

PLENTY!

In a way, it's symbolic of the kind of help CU can give you in this time of shortages and rationing. In a way, it's the answer to the few loyal but worried members who have expressed the fear that CU wouldn't have anything to do, with more and more things being rationed. Shoes, for example.

You still have to wear shoes. And the government has told you how many pairs you can buy. "One pair in four months," says OPA's ration order.

Which puts these questions squarely up to you:

Now that the army is taking the best leather, is it safe to keep on getting the same brand of shoes you've been wearing?

Should you switch to a more expensive brand, to get better quality?

Since even an expert can't judge leather in the store, and since you can't see the vitally important insides of a shoe, you will have to decide blindly, unless you have laboratory test data on the different brands to guide you.

CU thinks you need this information. And OPA has made it possible for CU to give it to you by issuing lots of coupon 17's—150 of them—to CU's laboratory, so that we can test men's shoes. The shoes, ranging in price from $2 to $22.50 are now being purchased in various parts of the country. The results of the tests will be published in an early issue of the *Reports*.

That's just one reason why now, more than ever, you and your friends need CU.

CONSUMERS UNION is a non-profit organization chartered under the Membership Corporation Laws of New York State. Its purpose is to furnish unbiased, usable information to help families meet their buying problems, get their money's worth in their purchases, develop and maintain an understanding of the forces affecting their interests as consumers. Consumers Union has no connection with any commercial interest and accepts no advertising; income is derived from the fees of members, each of whom has the right to vote for candidates to the Board of Directors. More than 70 educators, social workers and scientists sponsor Consumers Union and a national advisory committee of consumer leaders contributes to the formulation of policy (names of the members of the committee will be furnished on request).

CONSUMER REPORTS each month gives comparative ratings of a variety of products based on tests and expert examinations, together with general buying guidance, information on medical and health questions, and news of happenings affecting the consumer's interest. The Reports is the manual of informed and efficient consumers the country over.

THE BUYING GUIDE (published as the December issue of the Reports) each year brings together information from all the preceding issues with new material and special buying advice. Pocket-size, 384 pages, with ratings of several thousand products, the Buying Guide is an invaluable shopping companion. Every member gets a copy of the Guide with his membership.

BREAD & BUTTER reports each week on new and predicted price and quality changes in consumer goods, interprets Washington legislation as it affects consumers, reports government regulations and actions on the consumer front, advises on food buying and preparation.

SUBSCRIPTION FEES are $4 a year, which includes subscription to the Reports and Buying Guide and Bread & Butter; $3.50 without Bread & Butter (for foreign and Canadian memberships add 50¢). Reduced subscription rates are available for groups of 10 or more (write for details). Library rates, for the Reports and Bread & Butter without the Buying Guide issue, are $3.50; for the Reports alone, $3.

Membership involves no obligation whatsoever on the part of the member beyond the payment of the subscription fee. Convenient order forms for renewing subscriptions or entering new ones are found at the back of each issue.

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The Press and Democracy

For the long pull, you can trust the people to make the right choices. Which is another way of saying that you can trust democracy. But in between, the people can be counted on for some awful boners. Many of those boners are alive and kicking—kicking in the teeth of the voters who elected them to office.

What set off these observations is a letter from a member questioning CU's opposition to the Ruml skip-a-year tax plan. "How can CU claim the Ruml plan favors the rich at the expense of the rest of the people when a Gallup poll shows an overwhelming majority for the plan?" the member asks.

Well, the people do elect scoundrels to office, and they do support legislation which would take bread out of their own months to give it to those who don't need it; and all for the same reason. The reason is that their information about candidates and issues comes from enemy territory, so to speak.

Take the Ruml plan, for example. On the surface it looks fine. *Nobody* would have to pay any taxes on 1942 incomes. Yet, in the words of such a conservative economist as Professor Neil Carothers, "The Ruml plan . . . would . . . inflict sudden burdens on millions of poor taxpayers and make a cash gift of hundreds of millions of dollars to wealthy taxpayers. . . . A movie star who made $300,000 in 1942 now owes the government $230,000. Under the Ruml plan he could have retired January 1st and lived handsomely ever after off the cash gift of $230,000."

But few people saw Professor Carothers' statement in the letter column of the New York *Herald Tribune*. The only knowledge of the Ruml plan most had, came from passionate praises of it repeated day after day in the news and editorial columns of their daily papers. What they did not realize was that those daily papers are owned by men of wealth who stood to profit—at the expense of their readers—from enactment of the Ruml plan.

It cannot be repeated too often that the publisher of a daily newspaper must be regarded essentially as a business man who is dependent for his profits on advertisers. This means that the average publisher—there are notable exceptions—can be counted on to be anti-consumer where business and advertising interests conflict with consumer interests. And that means, to be more specific, the suppression or playing down of news and opinions the publishers and the advertisers don't like—opinions opposed to the Ruml plan, or favorable to grade labeling, for example.

For consumers to make decisions affecting their welfare on the basis of information obtained from the press makes about as much sense as it would for our generals to plan their campaigns on the basis solely of information knowingly supplied to them by the Axis high command.

All of this, we feel, provides one more powerful reason why consumers must organize. The average individual consumer finds access to unbiased sources of information difficult. The organized consumer doesn't. His organization can hunt for the progressive papers on which he can rely. It can search out consumer and other groups which work solely for his interests. It can go to original sources of information in the government and elsewhere. It can discuss, debate, ask questions. In other words, consumer organization can help make democracy work.

Consumer Reports

"FACTS YOU NEED BEFORE YOU BUY"

"Because it was established for the very purpose of aiding families to buy wisely, to avoid waste and to maintain health and living standards, and because it is the largest technical organization providing such guidance, Consumers Union recognizes a special responsibility to the nation. In full awareness of that responsibility, we pledge ourselves to do everything in our power to help Americans as consumers make the greatest possible contribution to the national need."—FROM A RESOLUTION ADOPTED ON DECEMBER 10, 1941, BY THE DIRECTORS.

VOL. 8, NO. 4 • APRIL 1943

REPORTS ON PRODUCTS

HEALTH AND MEDICINE

NEWS AND INFORMATION

CORRESPONDENCE should be addressed to Consumers Union, 17 Union Square, N. Y. C. CU regrets that time does not permit answers to inquiries for special information.

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REPORTS ON PRODUCTS

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Ratings of products represent the best judgment of staff technicians or of consultants in university, governmental and private laboratories. Samples for test are in practically all cases obtained on the open market by CU's shoppers. Ratings are based on laboratory tests, carefully controlled use tests, the opinion of qualified authorities, the experience of a large number of persons, or on a combination of these factors. Even with rigorous tests, interpretation of findings is a matter on which expert opinion often differs. It is Consumers Union's pledge that opinions entering into its evaluations shall be as free from bias as it is possible to make them.

BUYING CHILDREN'S SHOES

. . . presents new problems with rationing in effect. CU made laboratory tests on 22 pairs, checking on 18 points of construction and 10 points of material strength. Results of the tests are given here, as well as advice on how to judge fit

With the shoe rationing program limiting children as well as adults to three pairs of shoes a year, it has become doubly important to make the best possible choice of the brands offered on the market.

The problem is to get the kind of shoes that will stand up for at least the full ration period. And to find such shoes, you'll want the answers to several questions:

Is it necessary to buy expensive shoes, to make sure they'll last?

Are there any special constructions or leathers that will give better service than others?

With shoes rationed, should the child wear new shoes for "good" and use the old ones for "every day";

Since you know the shoes will have to last for four months, what size should you buy to be sure they'll be a good fit during the whole period?

To help answer the first two of these questions CU has tested 22 pairs of children's shoes, two pairs of each of 11 popular brands. Three of the brands cost less than $3 and these were greatly inferior to the other shoes tested.

On the other hand, the most costly brands did not always show up among the best in the shoe tests. The most expensive pair tested cost $7 and rated fifth in quality. The brand ranking highest in quality cost $6.95; the prices of those ranking second and third were $5 and $3.95.

CU can, by means of tests, measure the probable durability of a pair of children's shoes. But the fit is something you must judge for yourself. Good fit cannot be overstressed, for properly fitted shoes are necessary to the normal growth of children's feet. Furthermore, badly fitted shoes will wear out more quickly than well-fitted ones of the same quality. And you'll need to eliminate all possible wear factors in order to be sure the three pairs in your ration will last the full year.

HOW TO JUDGE FIT

Take the child with you when you buy his shoes, and have them fitted in the store. While the child is standing, have each foot measured separately for length and width; use the larger measurements to determine the shoe size. Spread out the stocking and straighten the toes so that the length can be measured accurately. The shoe should be about one inch longer than the foot.

Be sure when the child tries them on that there is plenty of room in the shoes for normal spread and growth of his feet. The toe area should be wide and roomy, permitting the toes to lie straight out and slightly separated. You can judge this by feeling the foot through the shoe upper, while the child is standing. If the shoe is wide enough, you should be able to fold the leather slightly together between your fingers when you draw them across its width. Feel the area at the widest part of the shoe; it should be at the widest part of the foot—across the joints of the large and small toes.

THE ARCH of the shoe should not flatten when the weight of the body is on the foot. Proper support at the arch and instep are important for proper distribution of weight.

THE SOLE of the shoe should be flexible enough to bend as the child walks. Test this by having him walk on tiptoe.

THE FASTENING of the shoe over the instep should be adjustable. For that reason, a laced shoe having an adequate tongue is best for children. If it is made well it can be adjusted, without distorting the shape of the shoe, merely by easing or tightening the laces. Sandals with buckles and adjustable straps are better and have more leeway than those fastened with straps and buttons.

Whatever the fashion for grown-ups' shoes, the inner edge of a child's shoe should be straight. The straighter it is, the better the shape of the shoe.

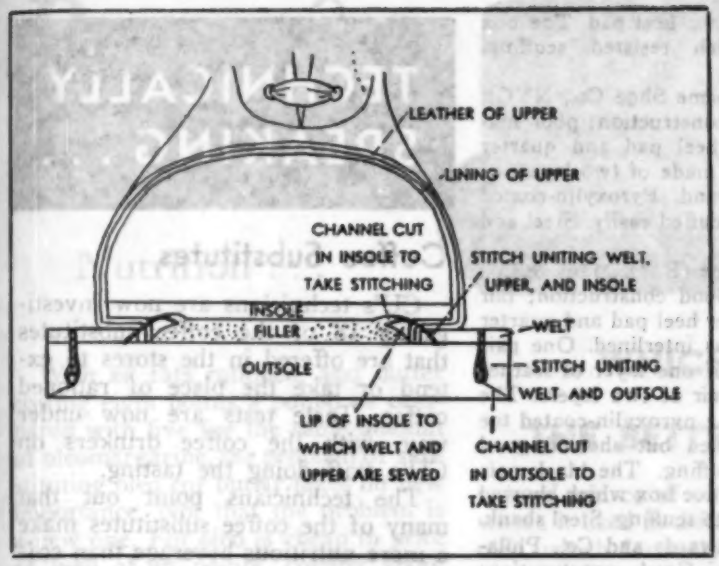
When you're on limited rations particularly, it's a poor idea to keep one pair of children's shoes for "dress-up." The "dress-up" shoes seldom are used enough to wear them out, and when they are put into use for "every day" wear they are generally outgrown. Much better is to have only one pair of well-fitted shoes at a time, and buy a new pair only when the old ones are worn out.

CONSTRUCTION AND MATERIAL

In rating the shoes for probable durability, CU technicians made tests and examinations for 18 points of construction and 10 points of material

HOW TO SAVE $9

You can get good children's shoes — Pediforms — at $7, CU's tests show. But you can get shoes that rate even higher — Coward — for $3.95, according to CU's tests. In other years, your savings might be a little hard to figure, but this year it's simple arithmetic. Three pairs at a $3 saving on each pair; that's $9 saved in the course of the year. And besides, by following CU's recommendations, based on laboratory tests, you can be much surer of getting shoes that will carry your child through the ration period.



GOODYEAR *welt construction—best type for children's shoes.*

strength. Because the quality of the leather varied in different pairs of the same brand of shoes tested and even sometimes, in different shoes of the same pair, greater emphasis was placed on the 18 points of construction in the ratings.

Children's shoes should be of Goodyear welt construction. Better than any other type, it allows for repair of the sole without injury to the fit or structure of the shoe. This is a feature that can be identified only when the shoe is taken apart and examined. Of the shoes tested, all but one brand, Sears' *Sandy Nevin, Jr.*, were so constructed.

Other factors considered in the ratings were these:

THE SHANK should be of steel, steel and leather, leather, or steel and paper. Wood is less desirable. There are a few good brands such as *Kalisteniks* which exclude the shank and rely on other points of support.

Whether or not children's shoes require shanks to support the arch of the shoe has been the subject of some controversy. If the shoes are well made, either type should prove satisfactory.

THE COUNTER—the reinforcement at the back of the shoe—should be made of leather, not of impregnated paper.

THE HEEL LIFT should consist of at least two, preferably three layers of leather, with a rand (a horseshoe-shaped strip of leather, tapered toward its inner rim, forming the layer closest to the sole). If a rand is not present, the top of the heel lift is hollowed out to fit the curve of the sole at the heel. Such construction is not so satisfactory as the use of a rand. A heel made of one solid piece of rubber or leather is inferior, as is a heel lift made of layers of paper.

THE HEEL PAD should be of leather, not leatherette or paper.

THE TONGUE should be wide and firmly sewn, so that it will not slip to one side. If it is lined, the lining should be sewn—not pasted—to the tongue, preferably with two rows of stitches.

EYELETS on laced shoes are somewhat more durable if they are constructed so that they are visible on the outside, as well as the inside, of the shoe. There should be at least five, preferably six, eyelets in each row.

SEWING THREAD should be strong, and stitching should be close and even. CU technicians examined the sewing of the outersole, insole and uppers, and the sewing of various parts of the upper; as well as the way the quarter was stitched to the vamp area and the vamp to the toe area. The number of stitches per inch and the ply of the thread are important factors here.

LEATHER should be of good quality. The thickness of the leather used in outersole and insole was measured, and tests were made on the tensile strength of the outersole, insole and upper. The abrasion resistance of outersole and insole was measured on an abrasion machine.

THE LINING in the back of the shoe should be of leather rather than leatherette and should have an interlining (doubler). It should extend into the vamp area. If cloth linings are used, they should be strong enough to withstand the heavy wear they get.

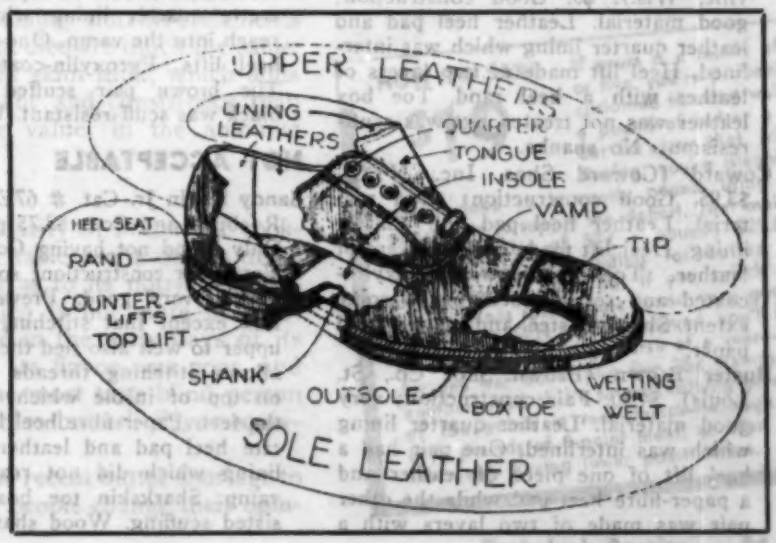
HOW THE BRANDS RATED

When the ratings were compiled, CU found substantial differences in quality between the highest and the lowest quality brands. However, overall differences in quality were not great except for the three brands at the bottom of the list, *Educator, Pavement Pounders* and *Sandy Nevin, Jr.*, which were definitely inferior to any of the others. Because it had an undesirable type of construction and an impregnated paper heel lift, the *Sandy Nevin, Jr.* shoe was rated "Not Acceptable."

CARE OF CHILDREN'S SHOES

Children give their shoes much harder wear than adults do; they wander through puddles until their shoes are sopping wet, and they are bound to scuff their shoes at play. But you'll find that good shoes can "take it" reasonably well if you give them proper care and repair any damage as soon as it occurs. Protect the leather by keeping the shoes well polished (preferably with paste polish).

When they become wet, dry the



***A SHOE** broken down to show its principal parts.*

shoes carefully before they are worn again. Pack them with newspapers, being careful not to distort the shape, and let them dry away from heat or direct sunlight. When they are dry, rub uppers and leather soles with castor oil; polish with a dry cloth and then with shoe polish. Do not apply oil to rubber soles or heels, since oil deteriorates rubber.

Badly scuffed shoes can be improved by being treated with a good scuff polish. Buying shoes with scuff-proof toes—either of plastic or of scuff-resistant leather like sharkskin—is also of some help, but it is only a partial solution to the problem, because children scuff various parts of shoe uppers. Toes made of pyroxylin-covered leather, pressed to imitate sharkskin, are not necessarily resistant to scuffing. In CU's tests, brown shoes appeared to scuff more easily than black ones, especially in the absence of scuff-proof toes.

BEST BUYS

The following brands of shoes were considered to offer the best value for the money in the order given. For details see listings under "Acceptable."

Coward. $3.95.
Kalisteniks. $5.00.

ACCEPTABLE

(In estimated order of quality)

Indian Walk (Foot Form Shoe Shops, NYC). $6.95. Very good construction; fair material. Leather heel pad and quarter lining. Heel lift made of three layers of leather with a heel rand. One pair had a pyroxylin-coated toe box which stained but showed good resistance to scuffing, while the other pair was not coated and scuffed easily. One pair had a steel shank and the other a leather shank.

Kalisteniks (Gilbert Shoe Co., Thiensville, Wis.). $5. Good construction; good material. Leather heel pad and leather quarter lining which was interlined. Heel lift made of two layers of leather with a heel rand. Toe box leather was not treated but was scuff-resistant. No shanks.

Coward (Coward Shoe, Inc., NYC). $3.95. Good construction; good material. Leather heel pad and quarter lining. Heel lift made of two layers of leather. Toe box was pyroxylin-coated and resisted scuffing to some extent. Shank of steel and impregnated paper.

Buster Brown (Brown Shoe Co., St. Louis). $4.50. Fair construction; very good material. Leather quarter lining which was interlined. One pair had a heel lift of one piece of leather and a paper-fibre heel pad while the other pair was made of two layers with a rand, and a leather heel pad. Toe box of plastic which resisted scuffing. Wood shank.

Pediforme (Pediforme Shoe Co., NYC). $7. Very good construction; poor material. Leather heel pad and quarter lining. Heel lift made of two layers of leather and a rand. Pyroxylin-coated toe box which scuffed easily. Steel and leather shank.

Macy's Right Shape (R. H. Macy & Co., NYC). $4.49. Good construction; fair material. Leather heel pad and quarter lining which was interlined. One pair had a heel lift of one layer of leather and the other pair of two layers. The brown pair had a pyroxylin-coated toe box which stained but showed good resistance to scuffing. The black pair had a sharkskin toe box which showed good resistance to scuffing. Steel shank.

Pedi-Poise (J. Edwards and Co., Philadelphia). $5.50. Good construction; fair material. Leatherette heel pad and leather quarter lining which was interlined. One piece heel lift with a rand. Pyroxylin-coated toe box which scuffed easily. Steel shank.

Classmates (Ideal Shoe Mfg. Co., Milwaukee). $3.25. Fair construction; good material. Leatherette heel pad and leather quarter lining. Heel stay inserted in back of shoe to keep shoe from slipping off foot. One-piece heel lift, Pyroxylin-coated toe box which showed poor resistance to scuffing. Wood shank.

Educator (G. R. Kinney Co., NYC). $2.74. Poor construction; good material. Paper-fibre heel pads and leather quarter lining. One pair of shoes had an interlined quarter. The other was not interlined. One pair was made without a heel lift, the rubber heel coming right up to the sole. The other pair had a lift made of one piece of leather. The brown pair had a sharkskin toe box. The black pair was plain leather. Both showed good resistance to scuffing. Wood shank.

Pavement Pounders (Thom McAn, NYC). $2.99. Poor construction and material. Leather heel pad and leatherette quarter lining which did not reach into the vamp. One-piece rubber heel lifts. Pyroxylin-coated toe box. The brown pair scuffed badly; the black was scuff-resistant. Wood shank.

NOT ACCEPTABLE

Sandy Nevin Jr. Cat. # 67E5852 (Sears, Roebuck and Co.). $2.75 plus postage. Only brand not having Goodyear welt. Very poor construction; sole and upper leather very good. Prewelt construction except that stitching which tied upper to welt also tied the insole. This allows stitching threads to protrude on top of insole which may irritate the feet. Paper-fibre heel lift. Leatherette heel pad and leatherette quarter lining which did not reach into the vamp. Sharkskin toe box which resisted scuffing. Wood shank.

TECHNICALLY SPEAKING . . .

Coffee Substitutes

CU's technicians are now investigating 18 of the coffee substitutes that are offered in the stores to extend or take the place of rationed coffee. Taste tests are now under way, with the coffee drinkers on CU's staff doing the tasting.

The technicians point out that many of the coffee substitutes make a more nutritious beverage than coffee. Most of them consist of whole-grain cereals or soy bean products, which are rich in vitamins and minerals. They contain no caffeine, which will be considered a disadvantage by those who claim that coffee gives them pep, and an advantage by those whose slumber coffee disturbs. All these considerations will be academic, of course, unless the substitute beverages prove palatable.

Work Clothes

The flow of women into jobs where they have seldom ventured before has focused much attention on women's work clothes. Stylists, safety engineers and production men have all been spending considerable effort in designing functional, yet attractive garments.

CU is now studying the different types of women's work clothing. The technicians report that there is considerable variety, with many safety features that may eventually find their way into men's work clothes.

The results of CU's survey will soon appear in the *Reports*. Included will be a discussion of the relative merits of coveralls, overalls, slacks, culottes and smocks for different types of work, and advice on shoes and headgear. There will also be pointers on the special features worth looking for, and the ones that are merely fads or fail to serve their purpose.

In the same issue will be an article, with brand ratings, on overalls for men. Included will be all nationally available brands, as well as widely sold local brands, rated in terms of material and construction

Butter?

Cost . . .

Points . . .

Nutrition . . .

Oleo?

Cost . . .

Points . . .

Nutrition . . .

WHICH IS THE BETTER BUY?

With all fats rationed, and butter costing eight points a pound as compared with five for the same amount of oleomargarine, the problem of substituting oleo for butter takes on new importance. Not that the problem is a new one. For oleo is cheap in price as well as in points, costing about half as much as butter except in states which levy prohibitive taxes on it.

With such a large point and price difference, then, a comparison of butter and oleo, in terms of nutritive value, taste and adaptability for various uses should prove of special value.

NUTRITIVE VALUE

Both oleo and butter have their chief importance in the diet as sources of energy-rich fats. Both must, by law, contain no less than 80 per cent of fat. But the sources of the fats are different: butterfat comes from milk; the fat in oleo may come from any one or a combination of several animal and vegetable sources. At one time, beef fat was the most common fat source; today, a great deal of oleo is made from refined soy bean and cottonseed oils. Regulations require that the type of fat—whether vegetable or animal—be printed on the label, although the exact source of the fat need not be indicated.

There has been much controversy regarding the digestibility of the various fats. The consensus today was aptly put in a statement by Dr. W. R. Bloor of the University of Rochester School of Medicine: "As to ease of digestion of different fats and oils, all experiments show that if the melting point of the fat is right (below body temperature) there is very little if any difference between different fats. . . ." The body is able to assimilate all fats to about the same extent—about 97 per cent. So that margarine is the equal of butter as far as energy-giving and digestive qualities are concerned (for further information on digestibility of fats, see the *Reports*, February 1943).

As for vitamins, butter is a good natural source of vitamin A. This is where it used to differ basically from oleo, which formerly contained no A vitamin. But today practically all the oleo on the market is fortified with vitamin A, and a law passed by the Food and Drug Administration in 1941 requires that if it is fortified the amount of fortification be not less than 9000 International Units of the vitamin per pound. This figure is the year-round average vitamin A content of butter; but whereas butter is a variable source, having a much higher vitamin A content in the Summer than in Winter, oleo can be relied on to provide the same amount the year round. In fact, the vitamin A content in oleo is frequently added in the form of fish liver oil concentrate, and a dose of vitamin D (which is not present in butter) accompanies it.

One other ingredient a fat provides is so-called essential fatty acids. It is known that the lack of essential fatty acids causes serious disorders in body function. Butter does contain some of these fatty acids, but research shows that it has less of them than almost any other vegetable or animal fat, such as oleo is made from.

The remaining nutritive elements in butter and oleo are much the same. Both contain skim milk, which adds more to flavor and consistency than to nutritive value, in the amounts found.

FLAVOR

The popularity of butter for cooking and for table use is due as much to its flavor as to its nutritive value. Probably oleo is not more used today because in the early days of its production, its flavor was poor, and not even the most taste-blind person considered oleo butter's flavor equivalent.

It took the recent butter shortage to make many people change their opinions. For during this period, when many people who had not tasted oleo during the past ten years or so were forced to turn to it as the only available spread, oleo gained many converts. These people were amazed to find how nearly like butter oleo tasted.

CU confirmed these casual findings with controlled taste tests. A panel of 20 tasted each of the 21 oleo samples included in the test. Each taster was given two samples at a time, identified only as "A" and "B." Some samples of butter were also included, and tasters were not told when their bread was "buttered" with oleo, and when it was spread with real butter. The result: they simply couldn't tell the difference. This despite the fact that many of the tasting panel were confirmed anti-oleo eaters, and claimed (before they tried it) to be able to tell the taste of oleo at the first bite.

In point of fact, there's no really good reason why one should be able to tell the difference. The fats used in the manufacture of oleo are thoroughly decolorized and deodorized, and then made up to the correct consistency before their manufacture. Pasteurized skim milk to which are added harmless bacterial "starters," causing certain chemical changes which give it a butter flavor, are churned. Then

HOW TO SAVE $19

If yours is a family of four or five, you're probably accustomed to using well over a pound of butter a week. But let's say that, with rationing, you're planning to cut it down to a weekly pound, using point-cheap fats to supply the deficit. That makes (at a ceiling price of 57¢ a pound) $29.64 you could count on spending for butter in the course of the year. But if you switch to one of the oleos CU tasters found very good—say SWEET SIXTEEN at 19¢ a pound, you'll be able to save $19.76 in the course of a year—enough for one war bond, plus five 25¢ stamps toward another. And that's to say nothing of a saving of 156 points in red stamps—enough to buy 19½ pounds of 8-point meat, or even more of the meats having lower point values.

"diacetyl," an artificial flavoring which is the same as that occurring naturally in butter, is added in an amount similar to that found in butter.

CU's tests brought out another interesting fact about oleomargarine. After more than two months of storage in an ordinary refrigerator, the samples tested had no detectable off-flavors; butter, stored for this length of time would have become noticeably rancid. Nor was this quality due entirely to the fact that some brands had preservatives (up to 0.1% benzoic acid or benzoate of soda). For even oleo samples which contained no preservatives were found to keep well. Taste tests with stored samples, as compared with the same brands, freshly bought, confirmed this fact.

RESTRICTIONS ON SALE

With all oleo's virtues, including its very low price, it might seem offhand as though its sale would be encouraged by the government—certainly not discouraged. Sad to say, this is not the case. Restrictions on the sale of oleo are a prime example of the triumph of money interests over health. For the Federal government, as well as many states, levy taxes which, in greater or lesser degree, increase prices and decrease sales of oleomargarine.

How and where these taxes came to be, who sponsored them and why, is a long story of which we can here give only the barest outlines.

The Federal tax (¼¢ a pound for uncolored oleo, 10¢ a pound for colored) and the Federal licensing fees ($600 a year for manufacturers; $200 or $480 a year for wholesalers, for uncolored and colored oleo, respectively; $6 or $48 a year for retailers, for uncolored and colored oleo) place oleomargarine in the unique position of being the only pure food on which free sale is restricted by Federal taxation.

To make matters worse, a great many states pile on further restrictions. Some half of the states impose additional license fees in one degree or another. The most severe of these is Wisconsin, which has the following licensing scale:

Manufacturers	$1,000 a year
Wholesalers	500 a year
Retailers	25 a year
Hotels and restaurants	25 a year
Boarding houses, bakers and confectioners	5 a year
Consumers	1 a year

Further, in Wisconsin as in many other states, the use of oleomargarine is prohibited in all State institutions and in the public schools; the sale of colored oleo is forbidden entirely.

In view of the facts about the desirability of oleo as a table spread, such taxation would seem to be nothing less than gross injustice. The reasons bear looking into.

Let us set aside the propaganda of the oleo manufacturers, who have an obvious motive in demanding the repeal of restrictive legislation, and examine the facts.

The taxes on oleomargarine were passed at the behest of legislators from the large dairy states, yielding to the pressure of the large dairy-farming interests. These interests, producing milk in tremendous quantities, feared that free sale of oleo would cut into their profits. And so powerful and well organized were they that they succeeded in passing laws to protect their profits—laws which give the consumers the unpleasant alternative of either having to pay extra dollars to purchase untaxed butter, or extra dollars for taxes on restricted but cheaper oleo.

But taxes on oleo continue, and the dairy bloc continues to put pressure on Congress for more and bigger restrictions. And so far, the voice of the people, demanding free sale of a vital food, has gone unheeded, except for one small victory.

The state of Oklahoma, which until now had imposed a consumer tax of 10¢ a pound on oleo, last month repealed its tax. It is to be hoped that the other states will be persuaded to follow suit.

CU tested 21 brands of oleo. Chemical tests showed no marked difference between brands; none had less than the required minimum of 80 per cent fat or more than the required maximum of 16 per cent water. Melting points of the fats, and the per cent free fatty acid were in all cases well within the required range.

Label statements were checked. None of the packages was short weight. Most brands had added preservative and flavoring. Three brands were made of mixed animal and vegetable oils. The rest were made of only vegetable oils.

There was a marked difference in price, from a low of 17¢ per pound to a high of 28¢ per pound. CU suggests that shoppers try the cheaper brands first, and change, if necessary, until a brand is found that suits the family's taste preference.

In taste tests, most of CU's 20 tasters could not tell the difference between butter and the better brands of oleo.

In the following ratings, brands are listed in three groups on the basis of taste tests. But keep in mind that individual tastes differ; these comparisons are given to enable you to try first those brands which most people prefer.

(Listings are in order of increasing price within each group)

VERY GOOD FLAVOR

Sweet Sixteen (Armour & Co.). 19¢ per lb. Animal and vegetable fats. Flavor added.

Golden Brand (Wilson & Co.). 22¢ per lb. Animal and vegetable fats.

Nucoa (Best Foods, Inc.). 25¢ per lb. Vegetable fat. Preservative and flavor added.

Good Luck (John F. Jelke Co.). 25¢ per lb. Vegetable fat. Flavor added.

Allsweet (Swift & Co.). 25¢ per lb. Vegetable fat. Preservative added.

Gem (Swift & Co.). 26¢ per lb. Vegetable fat. Preservative added.

Parkay (Kraft Cheese Co.). 27¢ per lb. Vegetable fat. Preservative and flavor added.

Creamo (The Blanton Co.). 27¢ per lb. Vegetable fat. Preservative and flavor added.

Richmade (Harrow-Taylor Co.). 28¢ per lb. Vegetable fat. Flavor added.

GOOD FLAVOR

Durkee's Dinner Bell (Durkee Famous Foods). 17¢ per lb. Vegetable fat. Preservative and flavor added.

Banner (Armour & Co.). 19¢ per lb. Animal and vegetable fats. Flavor added.

Daisy Maid (Swift & Co.). 19¢ per lb. Vegetable fat. Preservative added.

Mrs. Filbert's All American (J. H. Filbert, Inc.). 26¢ per lb. Vegetable fat. Flavor added.

Elgin (B. S. Pearsall Butter Co.). 27¢ per lb. Vegetable fat. Flavor added.

FAIR FLAVOR

Nutley (Atlantic & Pacific Tea Co.). 17¢ per lb. Vegetable fat.

Marigold (Armour & Co.). 17¢ per lb. Vegetable fat. Flavor added.

Blue Bonnet (Southern States Foods, Inc.). 22¢ per lb. Vegetable fat. Preservative and flavor added.

Churngold (Churngold Corp.). 24¢ per lb. Vegetable fat. Preservative added.

Troco (Durkee Famous Foods). 25¢ per lb. Vegetable fat. Preservative and flavor added.

Dixie (Capitol City Products Co.). 25¢ per lb. Vegetable fat. Preservative and flavor added.

Durkee's (Durkee Famous Foods). 25¢ per lb. Vegetable fat. Preservative and flavor added.

CANNED BABY FOOD

CU reports on tests on four leading brands of seven kinds of food, and finds little difference between brands

The baby food industry was born about 1921, in the restaurant kitchen of Mr. and Mrs. Clapp of Rochester, N. Y. Since then, it has grown tremendously, until there are now over 50 manufacturers and packers of strained foods with healthy, well-fed, happy looking infants decorating the labels of their wares.

As might be expected each manufacturer claims the most of the best in nutrition for his brand. But in tests of seven varieties of fruits and vegetables packed by four of the leading packers—110 cans in all—CU technicians found little basis for preference of one brand over another.

However, the different kinds of food do make different contributions to the total nutrition of the infant. The rate of growth and the health of a baby depend on many interrelated food factors—total calories with the proper proportions of protein, carbohydrate and fat; minerals such as iron, calcium and phosphorus; and vitamins. While no one of the canned, sieved foods contains all, or even large amounts, of many of these elements, some of them contain appreciable amounts of vitamins A, B_1, G and C, as well as iron, copper, etc. Modern canning procedures are such that there is not much loss of the minerals or of the vitamins A and G which are present in the fresh foods. Vitamins B_1, and C are more likely to be destroyed. However, vegetables and fruits which when fresh contain large amounts of these vitamins — tomatoes, spinach, peas and other greens, prunes, etc.— retain appreciable amounts, if carefully processed. Sieved foods, therefore, furnish important supplements of iron and vitamins B and A to the infant diet consisting of milk, orange or tomato juice, cod liver oil and whole grain or fortified cereal.

Training of the infant to good food habits should begin early. The earlier the baby is fed a variety of flavors and textures, the less likely he is to develop strong dislikes. Naturally this "variety of flavors and textures" should be digestible. The Council on Foods of the American Medical Association has said, "There is ample clinical evidence that commercially homogenized and sieved foods are well tolerated by the average baby and that digestive upsets caused by these foods are rare. . . . Normal infants are able to digest homogenized and sieved foods after the first month of life."

The difference between "homogenized" and "sieved" or "strained" foods is in the size of the food particle. "Sieved" or "strained" fruits or vegetables are forced through very fine screens with openings about two hundredths of an inch in diameter. The "homogenized" foods are more finely divided by being forced through stainless steel valves under very high pressure.

The question of when to start feeding your baby homogenized or strained foods can best be answered by your physician. He can tell when the baby is ready for them and he can tell you how to watch for any food allergies or other disturbances that may develop.

There are many mothers keeping house and raising a family on very limited budgets who can't afford the luxury of buying special foods for baby. With only the added expense of the time required to sieve the fruits or vegetables, the food prepared for the family can be used to feed the baby. But, remember, improper cooking results in almost a total loss of many important nutritive elements—for the family as well as for the baby. Following these few simple rules will result in more nutritious as well as better-tasting dishes: cook vegetables in as little water as possible and do not "cook them to death" (15 to 20 minutes is usually long enough); do not pour the water down the drain, but mix some of it with the strained vegetable for the baby and serve the rest in sauces or soups for the family; use no seasoning except small amounts of salt for vegetables or small amounts of sugar when cooking fruits. Tomato juice can be made by putting canned tomatoes through a strainer.

However, with point rationing and fluctuating prices—mostly upward—on fresh fruits and vegetables, it is not always more economical either of points or of money to feed the baby with food prepared for the rest of the family. Use of fresh fruits and vegetables in season when they are cheapest and most plentiful is the only "Best Buy" rule. As for ordinary canned foods as against special infant foods, only if the price you pay for a No. 2 can (1 lb., 3 or 4 oz.) is the same or less than the following, is it worth while to use part of

Vitamin B_1 Content in Micrograms per 2 oz.

	CLAPP'S	GERBER'S	HEINZ	BEECH-NUT
APPLESAUCE	4.7	3.0	....	3.8
GREEN BEANS	14.3	18.3	9.8	11.2
BEETS	6.1	5.8	5.8	5.5
CARROTS	11.0	14.0	13.0	12.8
PEAS	53.4	50.8	46.2	55.1
PRUNES	12.3	9.9	10.5	11.6
SPINACH	11.7	12.1	12.7	14.0

NOTE: Figures in bold type represent the brand having the highest vitamin B_1 content of each food.

it to feed the baby: green beans, 14¢; beets, 16¢; carrots, 15¢; peas, 15¢; spinach, 15¢; applesauce, 23¢. These "equivalent" costs for canned foods were figured on the basis of drained weight (weight of fruit or vegetable without packing liquor). Remember, however, that a can of prepared baby food costs only one ration point and the equivalent weight of food prepared from a No. 2 can costs from three to six ration points at current rates. It is up to the housewife to decide how she wants to budget her points—whether she would rather spend a penny or two more and save points or vice versa.

Investigations conducted by the Committee on Nutritional Problems of the American Public Health Association indicate that "the infant's daily requirements for essential nutrients can be met through low-cost foods and vitamin D preparations" and that "increased expenditure will not insure a dietary that is nutritionally superior but . . . will purchase foods that require less labor and fuel for their preparation." Of course, the money saved is really wasted if the nutritive value has been destroyed by improper cooking or storing and the importance of good cooking habits cannot be emphasized too often.

HOW CU TESTED

CU technicians tested four cans each of applesauce, green beans, beets, carrots, peas, prunes and spinach packed by four of the leading manufacturers of baby foods—Clapp, Gerber, Heinz and Beech-Nut. In 21 stores shopped in the New York area prices for each brand ranged from 5¢ per can (sale price) to 10¢; in 11 stores the price was 3 for 20¢; the average price was 7¢. The can size varied from 4½ ounces to 5 ounces for each food with the Heinz product in all cases the lowest weight. Consistency tests indicated, however, that the Heinz product was also the least watery of all brands tested. Vitamin B_1 determinations[1] indicated small variations between brands with no one brand being consistently higher or consistently lower than any other brand. Following is the average vitamin B_1 content of all brands in micrograms per 2 ounces: peas, 51.4; green beans, 13.4; carrots, 12.7; spinach, 12.6; prunes, 11.1; beets, 5.8; applesauce, 3.8.

But vitamin B_1 content is not the only criterion upon which to base a choice. Although CU technicians did not test for other nutritive elements, various published tables and reports show that spinach, for instance, is an excellent source of vitamins A and C; carrots, too, are a good source of vitamin A. In other words, the foods complement each other and contribute in one way or another to the total nutrition of the infant. Not only for this reason is it important to have variety, but also to accustom the baby to different flavors. All the samples were tasted and though rather flat for adult taste, none had off-flavors.

[1] Vitamin B_1 (thiamine) was determined by measuring the amount of carbon dioxide liberated from a yeast suspension by reaction with the food being tested. This method is a modification by Josephson and Harris, of the Massachusetts Institute of Technology, of previously published microfermentation methods. (Ref.: Josephson, E. S., and Harris, R. S., *Industrial and Engineering Chemistry*, Analytical Edition, *14*, 755, 1942.)

CANDY BARS

. . . look and taste about the same as ever. But 19 out of 20 bars, tested by CU in 1939 and retested this year, shrank in size so much that there was an average "hidden price rise" of 23%

Nickel candy bars still cost a nickel. But their cost has soared since CU last tested them in 1939. That's a paradox only until you examine the facts. The paradox vanishes with the words, "hidden price rise."

Here's an example of how the hidden price rise works for candy bars. Let's say you are in the habit of buying Mars' *Forever Yours* candy bars. Chances are that you haven't noticed any appreciable difference in taste or appearance in bars you've been buying for the past four years. But had you—like CU—saved the labels, here's what you'd find: in 1939 your nickel bought four ounces of *Forever Yours*. Now the nickel bar weighs only 2¼ ounces. In other words, if you bought the candy bar by weight, the way you buy sugar, you'd be paying almost 9¢ instead of 5¢ for a four-ounce bar.

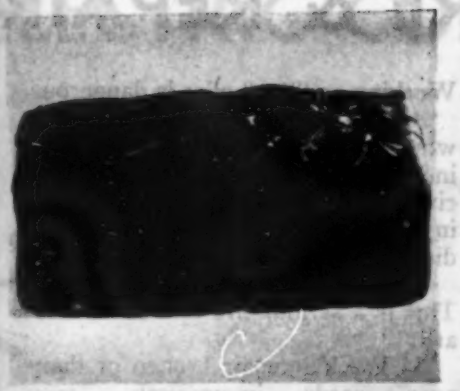
The sad truth is that price ceilings of candy, as set by the General Maximum Price Regulation last March, have not halted the boosting of prices. And the Office of Price Administration recently tried—and failed—to get a permanent injunction against Mars, Inc., because the company had reduced the weight of its candy bars 11 per cent last May. The Federal Court judge who heard the case ruled that "slight reductions" in the weight of candy bars sold in March did not constitute a violation of OPA regulations, and therefore he dismissed OPA's application for an injunction. OPA is appealing the case; unless the decision is reversed, price control will be seriously threatened.

REDUCTION IN WEIGHT

CU's survey of prices and weights of popular brands indicates that reductions in the weight of candy bars have been far from "slight." CU was able this year to buy 20 of the kinds of candy bars studied in 1939. Of the whole assortment, *Tootsie Rolls* were the only ones that hadn't shrunk in size. A two-ounce *Tootsie Roll* used to cost 5¢; it still does. But the other bars which were tested then and now showed a hidden price increase averaging around 23 per cent.

CU's analysis of candy bar prices revealed some other interesting facts.

The least expensive of the rapidly disappearing milk chocolate bars in the present survey—aside from the



A bar of nickel chocolate candy that looked something like this back in pre-war days . . .

six-ounce bars priced at two for 25¢ (which CU hasn't found in the stores for several months)—was Hershey's ¾-ounce bar. These used to cost three for 5¢; now many stores sell them for a straight 2¢ each, and some, for 3¢ each. At 2¢ they are a good buy. Their cost per ounce is 2.7¢, compared with 3.1¢ per ounce for *Peter's* (1⅝-ounce bar), the lowest priced 5¢ bar CU found, and 3.3¢ for *Hershey's* 5¢ (1½-ounce) bar. Puffed milk chocolate bars were found to be more expensive than unpuffed bars of either the same or competing brands. But for utter extravagance in candy buying CU cites the penny bar. *Hershey's* penny bars of milk chocolate cost from 6.3¢ to 6.7¢ an ounce.

As for milk chocolate with almonds, *Aero* (made by Hershey) was both the best buy and the worst, depending on how it was bought. The 5¢ bar was comparatively cheap, costing 3.3¢ an ounce; the penny bar, on the other hand, cost 10¢ an ounce.

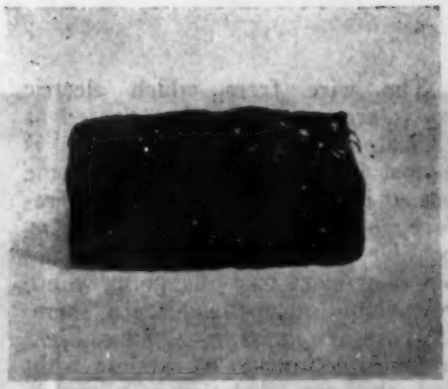
CU's shoppers found that there was no abundance in the stores of any kind of candy bars. The supply varied from day to day, as evidently most retailers sold out one shipment long before the next one arrived.

PEANUTS

When the candy shelves grow bare, dealers usually have an ample supply of peanuts. It is much more economical to buy peanuts in bulk than to get them ready-wrapped in 5¢ packages. In Woolworth's, for example, CU bought small peanuts with skins for 35¢ a pound; larger nuts without skins sold for 40¢ a pound. That brings the cost per ounce of these two varieties to 2.2¢ and 2.5¢, respectively. In 5¢ packages both *Planters'* Spanish peanuts (the small ones with skins), and *Planters'* larger ones without skins cost 3.6¢ per ounce.

The handful of peanuts a penny dispenser serves you is certainly not a bargain, but how expensive it is varies considerably from one handful to the next. In any case, CU found buying peanuts from a penny machine cost once and a half to twice as much as buying larger quantities in bulk.

CU sampled several dispensers, and found in 14 samples that the weight of a penny's worth varied from 0.28 ounces to 0.19 ounces; in other words the cost varied from 3.6¢ an ounce to 5.3¢. Even the same dispenser cannot be expected to spew out the same weight of peanuts each time. Five handfuls from one machine varied in weight from 0.20 ounces to 0.24 ounces, and this brings the figure to a price of 4.2¢ to 5.0¢ per ounce.



. . . has shrunk today so that a bar this size is all you may expect to get for your nickel.

Hidden Price Rise of Candy Bars from 1939 to 1943

	Cost	Stated Weight		Decrease in weight	Increase in cost based on 1939 price
	¢	1939 oz.	1943 oz.	%	%
Tootsie Roll, Sweets Co. of America, Hoboken, N. J.	5	2	2	0	0
Hershey's Milk Chocolate, Hershey Chocolate Corp., Hershey, Pa.	5	1⅝	1½	8	7
Suchard Bittra (bar), Wilbur-Suchard Chocolate Co., Inc., Lititz, Pa.	5	1½	1⅜	8	9
Suchard Milka (bar), Wilbur-Suchard Chocolate Co.	5	1½	1⅜	8	9
Oh Henry, Williamson Candy Co., Chicago	5	2⅛	2¼	10	10
Hershey's Milk Chocolate with Almonds, Hershey Chocolate Corp.	5	1⅜	1¼	9	11
Butterfinger, Curtiss Candy Co., Chicago	5	2¼	2	11	13
Milky Way, Mars, Inc., Chicago	5	2⅛	2¼	14	16
Nestle's Milk Chocolate, Peter Cailler Kohler Swiss Chocolates Co., Inc., Fulton, N. Y.	5	1⅜	1⅜	15	16
Nestle's Milk Chocolate, Peter Cailler Kohler Swiss Chocolates Co., Inc.	13	7	6	14	16
Peter's Milk Chocolate, Peter Cailler Kohler Swiss Chocolates Co., Inc.	13	7	6	14	16
Nestle's Puffed Milk Chocolate, Peter Cailler Kohler Swiss Chocolates Co., Inc.	5	1⅜	1¼	17	21
Nestle's Milk Chocolate with Almonds, Peter Cailler Kohler Swiss Chocolates Co., Inc.	5	1⅜	1⅛	18	22
Baby Ruth, Curtiss Candy Co.	5	2⅛	2	20	25
Love Nest, Euclid Candy Co., Inc., San Francisco	5	2⅛	2	20	25
Baker's Milk Chocolate, Walter Baker & Co., Inc., Dorchester, Mass.	5	1⅜	1¼	23	29
Mounds, Peter Paul, Inc., Naugatuck, Conn.	5	3	2¼	25	34
Mr. Goodbar, Hershey Chocolate Corp.	5	3	2⅛	27	37
Rockwood's Sweet Chocolate with Fruit and Nuts, Rockwood & Co., New York	10	7	5	29	43
Forever Yours, Mars, Inc.	5	4	2¼	44	78

CARE & REPAIR

The wire from which electric cords are made is today classed as critical material, and as such, it is almost impossible to buy for home use. It is especially important, therefore, to make cords last as long as possible, and to keep on repairing old ones even past the point where you would normally discard them.

There are limits, to be sure. Electricity is nothing to be careless with, and when the insulation of a cord is brittle or worn away, there's nothing much you can do except discard it.

But minor flaws, including breaks and loose ends, can be repaired easily. By learning how to connect wires to plugs properly, you can prevent short circuits and blown fuses.

Fortunately, the material needed for repairing cords (attachments for appliances, friction tape, rubber tape), is still available. And the methods for applying them are so simple that anyone who can handle a screw driver can do it. The pictures on these two pages show how common repairs and connections can be made.

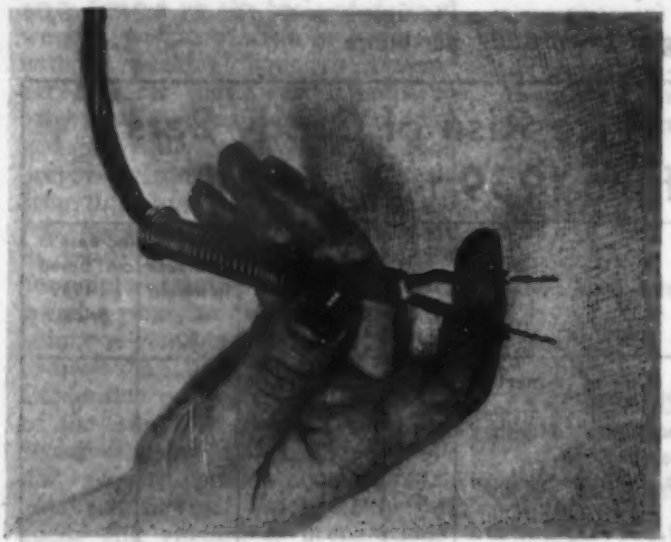
It is essential for safety to observe these precautions:

ALWAYS be sure to disconnect the appliance or cord you are working on from the source of electricity. Working on "live" wire is dangerous.

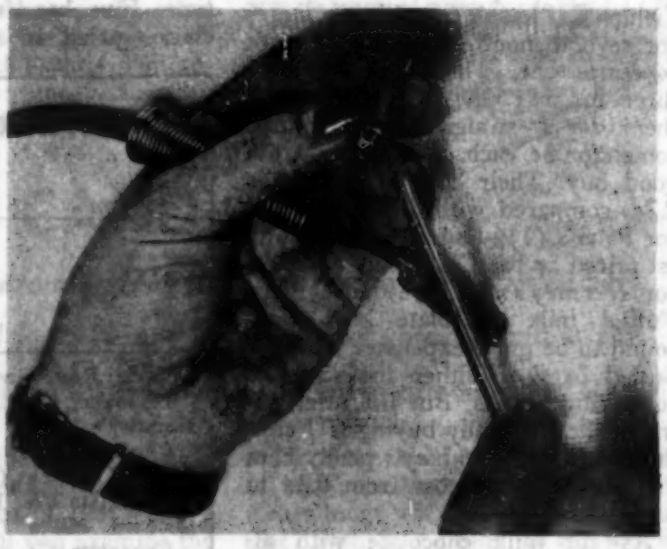
ALWAYS see that the two wires which form a cord are completely insulated from one another. A short circuit and blown fuse, to say nothing of possible fire, are the result of disregarding this precaution.

NEVER leave bare wire exposed. This is a serious fire and shock hazard.

ALWAYS repair broken or damaged cords immediately, even though they may still function. Sooner or later, they're sure to give way, and they may leave you with a much more serious job than cord-repair on your hands.

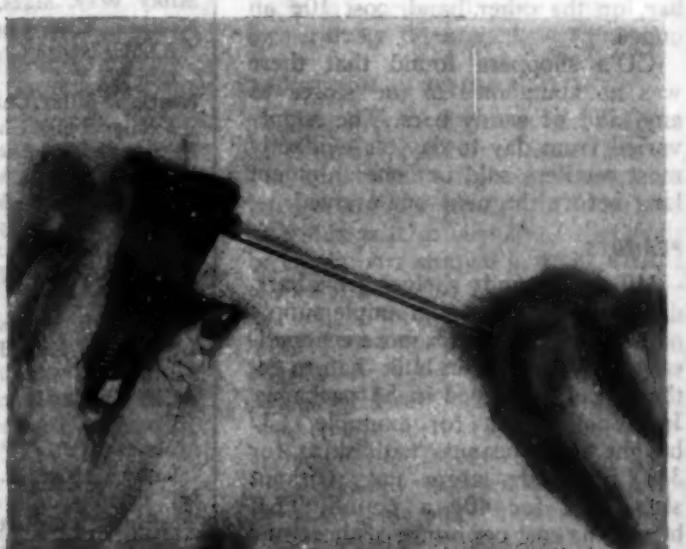


1. To attach an electric iron plug, first strip away outer insulation to about two inches from end; inner insulation, about 1/2 inch. Twist bare wire ends; slip spring protector over cord. To keep insulation from ravelling, wrap friction tape around outer insulation.



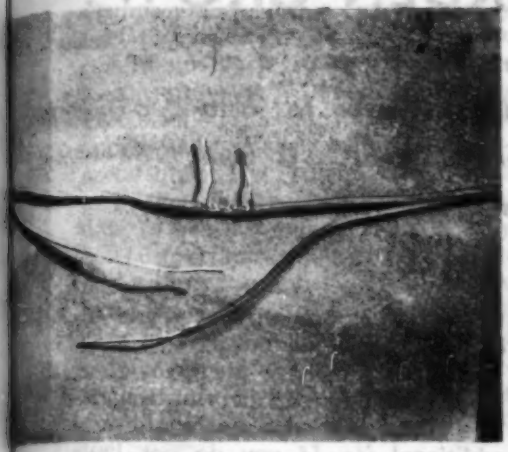
2. Tie a simple knot with the two wires, pulling it tight. Remove the metal connectors from the shell, loosen binding screws, and wind the bared wire clockwise around the screws. Tighten screws over wire, making sure it is firmly attached, with no loose ends.

3. Fit the connectors with attached wires, carefully back into half the shell, making sure that each part is in its own place, including the spring protector.



4. Replace the top of the shell and while holding the two parts together insert the small bolts and nuts, and tighten with a screw driver.

ELECTRIC CORDS



To repair a break in an extension cord, first make a straight cut across, then cut an additional 1½ inches off one wire of each pair. Bare insulation 1½ inches of each end, and fit each long end to a corresponding short end to stagger the joint (1). Twist each wire tightly around opposite wire to edge of insulation as shown, then twist remaining ends together. Cover bare wires individually with rubber tape, then with friction tape (2). Then (3) wrap the entire joint securely with friction tape.

(1) ↑ (3) ↓ (2) ↑ (4) ↓

To replace a plug cap, (1) first push the cord through the center hole, then remove about 3½ inches of outer insulation and fasten the end of the insulation with a small strip of friction tape. Now bend one wire in a loop, as shown. (2) Bend the second wire as shown, and (3) complete the knot. Draw it tight, and pull the plug up until the knot rests in the recess of the plug. Strip insulation from about 1/2 inch of the wire ends and twist the ends tight. Then carry each wire around the prong to the binding screw as shown in (4). Wind the exposed end clockwise around the binding screw, pushing it under with a screw driver. Then tighten. The insulation on each wire should extend up to the binding screw.

HOW DOES YOUR GARDEN GROW?

It takes more than silver bells and cockle shells to grow a successful Victory garden. But it isn't too difficult, even for amateurs, and it's more important than ever this year. CU gives timely advice, plus ratings of seed suppliers, fertilizers, insecticides

The dilettante attitude with which so many city people used to turn to gardening is out for the duration. In its place has come a good, wholesome respect for the soil, stemming from a real need for what the soil can produce. For with canned foods scarce, and fresh fruit and vegetable prices soaring to unprecedented heights, it has become both duty and necessity for everyone who has access to a suitable piece of land to do his best to grow the vegetables his family will need this year. And if you've never grown a garden before, you'll find the job brings a real sense of accomplishment.

You can grow something edible on almost any piece of ground that has six hours' full sunshine a day and is not filled with tree roots.

If your own back yard is unpromising, try to get the use of a better plot. Perhaps you can share with a neighbor or you might be able to get the use of a good site with the aid of your local Victory Garden committee. In some sections there will be supervised community gardens.

SIX ESSENTIALS

There is not enough first-rate sunny fertile soil for everyone, however, and most home gardeners must work with land that is far from ideal. In judging the value of a plot, points to remember are these:

1. As already mentioned, sunlight at least six hours a day is essential.

2. A source of water nearby is very desirable, but if it isn't available, you can get along by using a mulch (a thick layer of peat, hay or similar material covering the surface of the ground around the plants) which will conserve water.

3. Your garden should not be near such trees as elms, willows or silver maples, whose roots range far in search of food and moisture. Even shrubs should not be too close.

4. A heavy growth of grass or weeds over the plot indicates fertility, but the land will be very hard to prepare unless you can have it done with a rototiller (these are for hire in some sections) or the sods are removed and soil shaken out by hand. Even when plowed in, sod and coarse weeds are likely to leave air pockets which will dry the soil too fast. Besides, sods harbor various pests which feed on root crops like carrots or beets. Shaken out sods can be put on the compost pile. If there is witch grass, its white jointed roots should all be picked out or it will rise again to choke your crops.

5. Recently filled land and soil containing too much gravel, sand or clay present a big handicap. However, a heavy application of organic material (preferably manure), lime if the soil is acid, and plenty of fertilizer will improve both sandy and clayey soils.

6. If the area is constantly wet do not use it if you can get a dryer spot. For with the best treatment your crops will be late and restricted in variety.

HOW MUCH CAN YOU PRODUCE?

The better the growing conditions and the more care the garden gets, the more food you can produce on a given area. A garden need not take a great deal of time once the initial soil preparation is done, but it must have regular and timely attention. A 25 x 50 foot garden needs an average working time of 30 minutes a day in May, June and July, and an average of 15 minutes a day in August, September and October. A beginner would probably have to spend longer —perhaps 45 minutes a day in May, June and July. If you can't afford this much time, make the garden smaller.

Under average home garden conditions about 400 square feet per person will produce all the fresh vegetables required; 800 square feet, enough for fresh vegetables and for canning; 1,000 square feet, enough for fresh vegetables, canning and storing. Novices, however, would do well to restrain their ambitions. A well cared-for, small garden will produce more than a larger one neglected, and inexperience is a handicap.

Even if you have plenty of time, land, and courage, growing vegetables to can and store involves several additional *ifs*. If you do not have access to a pressure canner or there is no community canning project in your locality, you will not be able to can any vegetables except such acid ones as tomatoes, rhubarb, and sauerkraut, unless you live in New England or other areas where the botulinus bacillus does not live in the soil. Extensive storage requires special arrangements—pits outdoors, or a cold room in the cellar. But almost anyone can put a few boxes of late carrots or beets, packed in moist soil, in his unheated garage where they will keep until Christmas. Send to your State Agricultural Experiment Station for information on canning and storage.

PLANNING THE GARDEN

To get the most out of a given area, you must start your garden at the earliest possible moment in Spring and keep your crops coming along steadily through late Summer and Fall. For this the chief requirement is *good planning*, although persistence in hot weather is needed too.

The table on page 100 suggests an adequate vegetable budget for a family of five (except for potatoes). The seed allowances are generous.

It is not absolutely essential to work out a plan on paper, but it is a great help. In any case you should know just what you are going to plant, when and where each crop is to be planted and how far apart the plants will be spaced. Then you can tell what supplies will be needed (seeds and plant fertilizers, spray or dust materials and equipment, tomato stakes, etc.), and when each job must be done. For help in planning, send for your state bulletin on Home Gardening, and for material published by the U. S. Dep't of Agriculture on Victory Gardens.

Good plans are worth studying. We reproduce two, for small plots. The Dempsey plan has a better variety for the average garden, but the small home garden illustrates succession planting well. The planting dates given for the Dempsey garden are approximate, and suit much of Massachusetts, New York, Pennsylvania and other sections where the average date of the last killing frost is May 15. If your season is earlier, subtract the required number of days. The beets, carrots, lettuce, cabbage and peas in this garden could be planted before May 1 in most years—sometimes as early as mid-April, or as soon as the ground can be worked in the Spring.

Notice how in both plans early crops are grown between wide-spreading late crops, so that the tomatoes or pole beans can have all the space they need when they need it.

The early peas may be followed in the same space by Chinese cabbage, and radishes; carrots, lettuce and spinach by tomatoes (plants, not seed). In addition, early peas can be followed by beets, early beans by turnips, onion sets by tomatoes, early carrots by cabbages. As soon as one crop is through, the old plants and debris are removed and put on the compost pile, and the strip is fertilized, forked over and replanted with a later and different crop.

Then there is succession planting—sowing seed of the same variety at intervals of 10 days to a month. Be sure to leave space for these later sowings, and do not sow too much at a time. Another method of getting a succession, sometimes recommended for crops such as peas and sweet corn, is to plant early, mid-season and late varieties at the same time. If late varieties are inferior, however, it is unwise to follow this method. In general, succession planting, together with frequent, thorough picking, is the best way to be assured of a continuous supply of fresh vegetables. For storage, however, late varrieties are generally better.

Real rotation of crops is impracticable in a small garden. The home gardener's substitute is to try to plant beans, cabbage, carrots, lettuce, potatoes, and tomatoes in a different spot each year, and if possible to run all the rows at right angles to their direction of the year before.

THE CROPS TO GROW

For food value and yield per square foot in average soil, the best

Plan of Garden 12 ft. x 21 ft. in Area

21 ft. × 12 ft.

Tomatoes—11 plants staked	⇅ 24 in.
Bush Beans followed by Turnips	⇅ 24 in.
Leaf Lettuce followed by Kohl-rabi	⇅ 12 in.
Radish followed by radish, then Kale	⇅ 12 in.
Onion sets for green onions	⇅ 12 in.
Carrots	⇅ 12 in.
Beets	⇅ 12 in.
Swiss Chard	⇅ 12 in.
Perennial Onions ____ Herbs ____ Chives	⇅ 12 in.

FROM THE UNIV. OF MINNESOTA AGRICULTURAL EXPERIMENT STATION.

Dempsey Garden Plan 20 ft. x 25 ft.

ROWS 15 INCHES APART
PLANTING DATES APPROXIMATE (See Column 1)

20 ft. × 25 ft.

		PLANT
Pole beans, 10 at 2 ft.		June 1
Carrots, 10 ft.	Beets, 10 ft.	May 1
Tomatoes, 10 at 2 ft.		June 1
String beans		May 1
Tomatoes, 10 at 2 ft.		June 1
Lettuce plants, 20 at 1 ft.		May 1
New Zealand spinach, for seeds, 10 ft.; for plants, 4 ft. Peppers, 6 at 1 ft.		June 1
Lettuce		May 1
Chard, 10 ft.	Parsnips, 10 ft.	May 1
Onion sets (or plants 100 at 2½ in.)		May 1
Carrots	Beets	June 1
Cabbage, 7 at 16 in.[1]	Cauliflower, 8 at 16 in.[1]	Aug. 1
String beans		June 1
Beets		Aug. 1
Carrots	Beets	July 1
Cabbage, 7 at 16 in.	Cauliflower, 8 at 16 in.	May 1
String beans		July 1
Space needed by adjoining plants		
Peas, 20 ft. Chinese cabbage (to follow peas)		May 1 July 15

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[1] As it will be difficult to get plants August 1, grow your own. June 1 plant two feet of Golden Acre cabbage and two feet of Snowball cauliflower seed in row 7 (from top); these plants, when ready, to be set in row 12.

How Much to Plant for Five

Crop	Varieties	Length of row required (feet) Fresh	Fresh, Can	Fresh, Can, Store	Seed or Plants per 100 ft. of row Seed	Plants
Snap Beans	Stringless Green Pod or Tendergreen	90	200	200	1 lb.	
Snap Beans	Pencil Pod Black Wax	90	150	150	1 lb.	
Beets	Crosby's Egyptian or Early Wonder	90	90	90	1 oz.	
	Detroit Dark Red or Ohio Canner	0	110	110	1 oz.	
Cabbage	Golden Acre or Green Acre	90	90	90	¼ oz.	65-80
	Danish Ballhead or Savoy Perfection Drumhead	0	0	55	¼ oz.	50-65
Carrots	Nantes or Tendersweet	90	200	90	½ oz.	
	Danvers Half Long	0	0	200	½ oz.	
Chard	Lucullus	20	20	20	1 oz.	
Corn	Golden Cross Bantam or Marcross 6.13	150	300	300	4 oz.	
Lettuce	White Boston or	75	75	150	⅛ oz.	100 to
	Grand Rapids	75	75	75	¼ oz.	300
Onions	Ebenezer	60	60	200	1½ lb. sets	
	Danvers Yellow Globe				½ oz. seed	
Parsnips	Hollow Crown	0	0	200	½ oz.	
Peas	Thomas Laxton or Laxton's Progress	150	300	300	1 lb.	
Spinach	Long Standing or Summer Savoy	100	400	400	1 oz.	
Summer Squash	Early Prolific or Cocozelle	5 hills	5 hills	5 hills	1 pkt. for 5 hills	30
Winter Squash	Delicious or Buttercup	0	0	15	3 pkts. for 15 hills	15-30
Tomatoes	Bonny Best or Rutgers or Marglobe	90	200	200	1 pkt.	33 flat or 66 trellis

crops are tomatoes, snap beans, carrots, cabbage and greens such as chard, spinach, broccoli and lettuce. Others in descending order of both food value and ease of culture are beets, sweet corn, radishes, peppers, Chinese cabbage, peas, cucumbers, squash, celery, onions.

By spending the time, labor and money required, you can do wonders with an apparently discouraging site. But if you cannot provide really good growing conditions, your best bet is to choose crops adapted to your soil, location and equipment. Otherwise you will have only trouble for your pains.

In rather dry soil (though any vegetable needs water) you can grow snap beans, carrots, chard, cucumbers, squash, sweet corn, peppers.

In freshly turned sod: tomatoes, beans, cabbage, corn, peas, squash, egg plant. (But take care, before you plant anything, to put the sods deep and upside down, leaving no air holes.) Do *not* plant root crops — beets, carrots, potatoes, etc.

In very acid soil: no vegetables, but strawberries, blueberries, watermelons.

In soil a little less acid: parsley, potatoes, radishes.

In "sweet" (alkaline) soil: spinach, celery, asparagus, beets, cauliflower, leeks, lettuce, muskmelon, onions, salsify. These will fail in acid soil, and in average soil are the vegetables most likely to need lime.

In soil low in organic matter, but with plenty of water and fertilizer: tomatoes, snap beans, sweet corn, peas, beets, cabbage, carrots, cucumbers, summer squash, chard. These are the crops to grow if your soil is poor and you cannot add plenty of manure, compost, or peat.

In shade part of the day: cabbage, kale, lettuce, spinach (but no vegetable really prefers shade).

Seldom requiring protection by means of insecticides and fungicides: carrots, beets, lettuce, spinach. Unless you are prepared for trouble do not grow tomatoes (flea beetles, horn worm, blight), potatoes (potato bugs, flea beetles, blight), beans (Mexican Bean beetle), squash, cucumbers (vine borer, striped beetles).

VARIETIES: In choosing varieties for quality, avoid novelties. With the shortage of spraying and dusting materials, disease-resistant varieties are especially important. Don't buy these just on general principles, however, but only if certain vegetables are known to be susceptible to disease in your locality. What these are can be learned from your State bulletin on home gardening.

SOIL PREPARATION

Just as soon as it is possible to work in the garden without the dirt's sticking to your shoes and tools, it is time for the big job of soil preparation and planting of the hardiest crops (plants or seeds), such as beets, peas, cabbage, carrots, lettuce. In order to be ready for a flying start you must know in advance just what to do. You should have your supplies on hand, and if you are not going to dig the garden yourself, have all arrangements made for plowing or rototiller preparation.

Vegetables prefer soil which is slightly acid (pH 6.5). If the garden is new you will not know whether your soil is too acid or not unless you have had it tested, and you must not add lime or wood ashes to "sweeten" it on general principles. Too much is worse than none. Correcting acidity is more important than usual this year because lime releases the plant food that is locked up in acid soil, and the Victory Garden fertilizer is deficient in nitrogen. Do not try to test the soil yourself. Your State Agricultural Experiment Station, county agent, or perhaps some expert attached to your local Victory Garden Committee will do it for you.

To take a soil sample for test, dig a hole six inches deep, then take a

downward slice on the side of the hole with a trowel, and send a half-pint jar of this to be tested. On the basis of the test, reliable recommendations can be made for the exact quantities of lime, fertilizer and organic material required. Do not take recommendations from uninformed persons. If you know the history of your plot you may be able to judge for yourself. If beets grew there successfully the preceding year, the soil does *not* need lime.

Whether your soil is too acid or not, it is pretty sure to need all the organic material you can afford to mix with it. If you made a lot of good compost last year you are fortunate. The average back yard needs a *heavy* application of manure, compost, or (last choice) peat, fresh or baled. Ten bushels of fresh horse or cow manure per 100 square feet will barely make up for what is removed from the garden with the crops; 50 bushels per 100 square feet will gradually build up the soil. Poultry manure, and dried cow and sheep manure add comparatively little organic matter to the soil unless they are used in large quantities (see table).

For many gardeners, peat, and usually baled peat, is the sole available organic material for improving the texture and water-holding capacity of the soil. But peat is very acid; therefore, it must be mixed with limestone or wood ashes even if the soil is not already too acid. Moist peat from a bog requires 10 pounds of limestone or 30 pounds of wood ashes per cubic yard; baled peat requires 5 pounds of limestone or 15 pounds of wood ashes per bale, to counteract its own acidity. Baled peat must be moistened before it is used, or it will dry the soil. Buy it well in advance, break open the bales and leave them out in the weather to moisten. For poor soil, a three- or four-inch layer of limed peat should be dug in deep.

Peat, unlike manure and compost has *no plant food value;* therefore, a great deal more fertilizer should be used with peat than with manure. Since fertilizer is short, use manure if you can possibly get it.

Poultry manure, although much richer in nitrogen than other kinds, is caustic and cannot safely be used in large amounts. Do not use more than 50 pounds of dried poultry manure per 100 square feet.

FERTILIZERS. The only mixed fertilizer

Recommended Varieties

(*P*) *buy plants, especially for the early crop.*
(*C*) *variety is especially adapted to canning.*
(*S*) *for storage.*

But other varieties may *be practically as good for canning or storage.*

SNAP BEANS: Stringless Green Pod, Tendergreen, Pencil Pod Black Wax. Do not bother with legume inoculants.

SOY BEANS: Giant Green (earliest), Bansei. But soy beans take *very* long to cook, except in a pressure cooker. They are easily shelled after two minutes under pressure.

BEETS: Crosby's Egyptian, Early Wonder (both early for succession planting), Ohio Canner (C) Detroit Dark Red (S)

BROCCOLI (P): Green Sprouting, Calabrese

CABBAGE (P): Golden Acre, Green Acre (both early for succession planting), Savoy Perfection Drumhead (late, very high quality), Red Drumhead, Danish Ballhead (S)

CHINESE CABBAGE: Chihli

CARROTS: Tendersweet, Nantes, Danvers Half Long (S)

CORN (early to late): North Star (Harris), Spancross, Golden Early Market, Marcross 6.13, Carmelcross, Golden Cross Bantam, Pearlcross (CC Hart Seed Co., Wethersfield, Conn.)

LETTUCE (P): Try sowing a very short row of each of two or three different varieties at two-week intervals. Then even in unfavorable weather, at least one should be edible: New York 12, Imperial 44 and 847 according to local requirements (all iceberg type), White Big Boston (butterhead), Trianon (Cos or Romaine), Grand Rapids (leaf lettuce). The last two are the best in hot weather.

MELONS (P): Subject to many troubles and require much space: Honey Rock (Sugar Rock), Emerald Gem, Aristocrat

ONIONS (P): Best from plants and next best from "sets" rather than seed except where Summers are cool: Japanese Bunching (scallions), Riverside Sweet Spanish (P), Ebenezer (sets) (S), Yellow Globe Danvers (S), Red Wethersfield

PEAS: Not for very small gardens. Early to late: World's Record, Thomas Laxton (C), Laxton's Progress (C), Little Marvel, Lincoln (C) (Harris), highest quality, Gilbo Giant Stride (Midseason Giant). Do not bother with legume inoculants.

POTATOES (S): Buy only certified northern grown seed. Insist on the state certification tag. "Certified Seed" means nothing: Chippewa, Green Mountain, Katahdin, Early Ohio

PUMPKIN (S): Not for small gardens: Winter Luxury

RADISHES: Scarlet Globe, White Icicle

SPINACH: Long Standing Bloomsdale, Summer Savoy, King of Denmark

SQUASH: Not for small gardens: Des Moines (Table Queen) smallest vines, Buttercup (S) 3-4 lbs., Delicious (S)

SUMMER SQUASH: Cocozelle (marrow), Early Prolific, Improved Straightneck

TOMATOES (P): If you use seed, buy State certified seed as insurance against disease: Bonny Best, Marglobe, Rutgers

WATERMELONS (P): Not for small gardens, and many pests: Wondermelon, Honey Cream, Northern Sweet, Dakota Sweet (Farmer Seed and Nursery Co., Faribault, Minn.)

to be manufactured this year is the Victory Garden fertilizer, a 3-8-7 mixture (3 lb. nitrogen, 8 lb. phosphorus, and 7 lb. potash in 100 lb. fertilizer). This is much lower in nitrogen than a good fertilizer should be, but we would be defeating the government's purpose if we increased the rate of application to make up for the deficiency of plant food. In most sections crops respond well to phosphorus without much nitrogen, so that good crops can be grown with a 3-8-7 mixture, but for New England soils it is very far from ideal. Therefore, New England gardeners must try to supplement their Victory Garden fertilizer with dried blood, fish scraps, fresh poultry manure or animal (not garbage) tankage and should make every effort to buy horse or cow manure. Dealers may have some left-over supplies of pre-war formula fertilizers like *Vigoro*, which have more than 3 units of nitrogen. Look at the formula printed on the bag before buying. The first figure stands for nitrogen.

There will be available plenty of superphosphate, which is needed to supplement manure. When applying mixed fertilizers or superphosphate in small amounts remember one quart weighs a little less than two pounds.

A SOIL PREPARATION PROGRAM

For the average back yard soil, which is acid, *very* low in plant food and poor in texture, an adequate recommendation would be, per 1000 square feet:

1. Broadcast 40 lb. ground limestone and 40 lb. 16% superphosphate.
2. Spread ½ cord fresh horse or cow manure or a 4-inch layer of compost or limed peat.
3. Mix thoroughly with the soil by deep spading, plowing, or rototiller.
4. Broadcast 20 lb. hydrated lime or 40 lb. limestone and harrow or rake in.
5. Broadcast 30 lb. 3-8-7 (Victory Garden) fertilizer and in New England supplement this with 8 lb. dried blood, or 10 lb. fish scrap or blood tankage, or 15 lb. bone tankage. Harrow or rake in at right angles to the first leveling. This work can all be done and the seed sown in one continuous operation, but it is a good idea to fertilize only the early planted part of the garden before the harrowing or raking (4). The rest can be raked in just before making late sowings or plantings.

If you dig the garden yourself, it need not all be done at once. Start on the side where you plan to put your earliest crops and prepare each section as it is needed. Care must be taken, however, in measuring the section to be prepared and weighing the required amounts of organic material and fertilizer.

TOOLS. The only necessary tools for an ordinary home garden are: a strong spade or spading fork, iron rake with 14 to 16 teeth, a hoe (for light soils get light strong tools, for stony or heavy soils, heavier tools will be needed), a trowel, garden line, a sprayer (of a size to fit your garden), or duster. It is best to have both, but if you must choose, find out first whether you can buy the whole range of protection poisons for one rather than the other, and choose equipment accordingly. A garden hose and sprinkler are essentials in the average dry Summer. Don't buy "double-purpose" tools.

PLANTING. Many novices make the mistake of planting the whole garden at once. Vegetables are here grouped according to the earliest date of planting, the earlier first:

1. *Hardy crops:* Spinach, peas, lettuce (seed or plants), radishes, chard, beets (seed or plants), carrots, turnips, onions (seed, sets or plants)—can be planted as early as the ground can be prepared. The time varies, according to the season and the locality.
2. *Less hardy crops:* Beans, broccoli (seed or plants), cauliflower (seed or plants), corn, potatoes, Summer squash—should be planted when the weather has settled and danger of frost is about over—about a month later than the time for hardy crops.
3. *Tender crops:* Cucumbers, New Zealand spinach, peppers (plants), tomatoes (plants), Fall and Winter squash—should not be planted until the ground is warm and all danger of frost is over—perhaps two weeks later than the "less hardy" crops.

Certain crops are sown at particular times to escape hot weather or special insects or diseases. For example, cauliflower is set only in early Spring or in midsummer, Chinese cabbage not until July, turnips after July 25.

For storage, crops are planted at the latest date which will give them time to mature before killing frosts. This time varies with the locality and will be found in your State bulletin on home gardening.

Succession planting continues until the latest safe date for the particular crop. Beets, lettuce, spinach, and possibly beans are planted latest of all.

Novices should buy plants of lettuce, onions, cabbage, cauliflower, peppers, tomatoes and melons, rather than start them from seed. Buy from good commercial growers, not from florists, hardware, ten-cent, or

Applications of Manure

	Light	Medium	Heavy
Fresh horse or cow manure, cords[1] per 1000 sq. ft.	⅛	¼	½
Fresh horse or cow manure, bushels per 100 sq. ft.	12	25	50
Dried cow or sheep manure, pounds per 100 sq. ft.	30	60	125
Fresh poultry manure, bushels per 100 sq. ft.	6	12	25
Dried poultry manure, pounds per 100 sq. ft.	25	50	50

[1] One cord has a volume of 4 ft. x 4 ft. x 8 ft.

department stores. Insist on good stocky plants. Tomatoes and melons are best from pots. Cold frames are very useful for starting plants early. Instructions for making them will be found in State bulletins on starting plants. It is unnecessary to use a regulation sash. Any spare window frame, or a storm sash will do, and will be lighter to handle, too.

HINTS FOR SUCCESS IN PLANTING. Manure should be dug in deep, so that it will not touch seeds or roots of early set plants, and should not be used at all for potatoes. The soil should be well pulverized. Break lumps and rake off stones and trash. Fertilizer should be broadcast *evenly* and mixed in.

Sow seed after, not before a shower. Use a line to get a straight row. To prevent "damping off" use treated seed or dust it yourself with a fixed copper dust or Semesan. Use only Spergon for limas. Sow seed in a depression (a "hill" is a hollow); only potatoes need the soil banked. The depth to plant varies with the season, kind of soil and size of seed. The rule is four times the diameter of the seed but early sowings are shallower, later sowings deeper; in clay soil shallower, in sandy soil deeper. For small seeds make a furrow about one inch deep, cover one-half inch; for large seeds make a furrow three to four inches deep, cover one inch. Radish seeds will mark the row and break the crust for slow germinating seeds like carrots. Spread cutworm bait just before the first plants emerge or are set out and repeat, three or four applications up to June 15. For recipe see page 104.

SUMMER CARE. One hour at the right time is worth three or four a few days later. Cultivation should begin as soon as seeds are up or plants begin to grow. How often depends on the weather; during a dry spell it may be omitted for three or four weeks. Keeping the weeds down when they are one inch tall will solve the problem of cultivation. Don't cultivate more than one inch deep, and don't hill up the earth around plants.

More crops fail from lack of water than from all other causes combined. Watering may be done at any time of the day or night, but it must be for one hour at least on each spot (but don't leave the sprinkler in one spot all night), and not oftener than twice a week. Two inches of fine material like peat or three to four inches of coarse material like straw, grass clippings, hay, or excelsior can be spread over the ground as soon as the plants are well established. This mulch will conserve moisture.

Intervals for Succession Planting

SNAPBEANS—every 2 or 3 weeks

BEETS—every 4 weeks

BROCCOLI—once a month

CABBAGE—once a month

CARROTS—once a month

CORN—every 2 weeks if one variety is used. If early, medium and late varieties, plant the early first, then 2 weeks later, both the medium and late varieties at the same time.

LETTUCE—every 2 weeks.

PEAS—not more than 2 plantings of an early variety, 2 weeks apart. Or plant early, midseason and late varieties.

RADISHES—every two weeks. Use White Icicle for midsummer planting.

COMPOST HEAP. Make a compost heap this Summer for use next Spring. Fence a small area with chicken wire, or dig a hole or place a large crate near a source of water. Into this compost bin throw all the waste of the garden, that is not diseased, and a good fraction from the garbage pail (but nothing greasy). Arrange the material in layers, eight to ten inches for coarse stuff, four to six inches for fine. Alternate these layers with half-inch layers of loam, and, if you can, add a little fresh manure occasionally. Sprinkle the refuse with any complete fertilizer with as high nitrogen content as you can get, at the rate of one to two cups of fertilizer to a wheelbarrow load of refuse. Then saturate with water. If fertilizer is omitted the compost will not be ready to use for two years. The top of the heap should be saucered to catch rain, and the whole heap kept moist. When the pile is three to four feet high start another.

If you have no room for a compost heap, chop weeds into the ground after the sun has killed them. Large amounts of refuse should not be dug in without a sprinkling of fertilizer; otherwise it steals nitrogen from the soil as it decays.

INSECTICIDES AND FUNGICIDES

Prices of spraying and dusting materials and equipment will certainly be as high as last year, at least, and there is a serious shortage of rotenone, the only stomach poison which is not poisonous to humans. To conserve dwindling supplies the government has forbidden the use of rotenone on cabbage, cucumbers, squash, melons, egg plant, onions, peppers. On peas, rotenone may be used only for weevils; on corn, only for corn borers. Our advice is to substitute pyrethrum for rotenone, and since pyrethrum is not so effective as rotenone for certain insects, to be more than usually thorough in application and exact in timing. If you have no small children you may be willing to use arsenicals (but *not* lead arsenate), or fluosilicates (Cryolite) on potatoes and on bean foliage *before* the beans appear. But these materials are poisonous and should be handled accordingly.

Good garden practices can do much to keep pests from becoming entrenched. Eliminate ants' nests near plants and keep weeds pulled outside as well as inside the garden, for weeds harbor insects and diseases. Hand pick diseased and infested foliage when it first appears, and burn the debris immediately. Learn to recognize insects and diseases; State bulletins will help you do this.

Diseases can be checked if caught in time—they can even be anticipated. Spraying and dusting must be prompt and thorough, and since effectiveness often depends on exact timing in relation to the life history of the disease or insect, recommendations of local Experiment Stations must be followed exactly. A few general suggestions for economical and effective application and timing are:

1. Apply dust when the air is still—early morning or late evening is best.
2. Make sure your equipment is in good working order. Sprayers should produce a fine mist, not a shower.
3. Apply fungicides before rather than after rain; keep the whole plant covered with a protective film.
4. Apply insecticides after the insects appear, but before they have become established; young insects are comparatively easy to kill.
5. Learn when to expect attack,

and examine plants regularly for the first appearance of pests.

6. Use the right kind of spray or dust for the particular pest. Fungicides do not kill insects, nor do insecticides check disease, and an aphicide like *Black Leaf 40* will not kill beetles.

THE GARDEN MEDICINE CHEST

Have on hand the *latest* edition of your State's bulletin on control of insects and diseases.

A sprayer and/or duster of correct size for your garden.

Paris Green to make bait for cutworms, slugs, grasshoppers or crickets. Mix ¼ lb. with 1 peck (5 lb.) bran, 1 pt. molasses (cheap grade from the feed store), 2 qts. water. Mix dry ingredients first. Three applications will be needed. This bran bait is better than commercial preparations, and is *not* attractive to birds. Paris Green is poisonous; care should be taken in its storage and use.

Apex Ant Killer.

Copper Dust *(Cuprocide, Metrox* or *Redoxide).* Small quantity for seed treatments.

In addition, if you have only a duster: 2% Nicotine dust for aphis; most efficient on a hot day, Pyrethrum dust (preferably *Pyrocide*) for worms, caterpillars, beetles, leafhoppers, some kinds of aphis.

Copper dust *(Cuprocide, etc.)* or Copper-rotenone dust (if you can buy any) fungicide for dusting. The copper-rotenone dust will also kill insects at the same time.

To use in a sprayer:

Black Leaf 40 for aphis, leafhopper, and other soft bodied sucking insects. 1 teaspoonful in 1 gal. water in which soap has been dissolved. *Always* use soap.

Pure soap flakes or beads to use with the above. Do not use any containing builders, which will burn the foliage.

Multicide, or other pyrethrum spray, for worms, caterpillars, beetles, leafhoppers, some kinds of aphis.

Powdered copper sulfate and spray lime for making bordeaux (or ready mixed bordeaux powder (see p. 105). For diseases of vegetables.

REFERENCES

The two most useful books for small home gardens:

DEMPSEY, PAUL. *Grow Your Own Vegetables* (Houghton Mifflin new ed. 1943). $2.00. The latest developments in cultural methods, insect and disease control and varieties. Plans, with detailed directions for carrying them out. Intensive use of space, how to combine vegetables and flowers. A valuable new chapter on the 20-minute garden.

FARRINGTON, E. I. *The Vegetable Garden* (Hale, Cushman and Flint new ed. 1943). A handbook for the amateur with small garden space. Treats all phases of planting, care and harvesting of vegetables. The monthly calendar of work is helpful. Recommendations are based on the needs of a family of five.

State bulletins on Home Gardening, Starting Plants Early, Storage and Canning of Vegetables, Control of Insects and Diseases.

VEGETABLE SEEDS

The following sources of supply are rated for the consistent quality of their seed strains.

BEST SOURCES

Joseph Harris Co., Inc. (Rochester, N. Y. Stores in Syracuse and Buffalo, N. Y., Cambridge, Mass.).

Ferry-Morse Seed Co. (Detroit and San Francisco). The best commission packeters.

Eastern States Farmers' Exchange (Springfield, Mass.). All seed treated against disease. Sells only in its territory: all New England, Maryland, Delaware, and all Pennsylvania except 13 counties bordering New York State.

Francis C. Stokes Co. (Moorestown, N. J.). Tomatoes only.

F. H. Woodruff & Sons (Milford, Conn.).

GOOD SOURCES

Abbott & Cobb (Philadelphia).

Comstock Ferre Co. (Wethersfield, Conn.).

F. W. Eberle (Albany, N. Y.).

Alexander Forbes & Co. (Newark, N. J.).

Glick's Seed Farm (Smoketown, Pa.). Tomatoes only.

Peter Henderson (NYC).

Livingston Seed Co. (Columbus, Ohio). Tomatoes only.

Robson Seed Farms (Hall, N. Y.). For hybrid corn.

Walter L. Schell (Harrisburg, Pa.).

Stumpp & Walter (NYC).

Vaughan's Seed Store (Chicago & NYC).

O. H. Will & Co. (Bismarck, N. D.). Varieties for a short growing season, and heat. Not satisfactory south of NYC.

NOT GENERALLY ACCEPTABLE

Some seed good, but in the opinion of CU's consultants quality too variable, at best

W. Atlee Burpee Co. (Philadelphia).

Breck's (Boston).

Lakeshore Seed Co. (Dunkirk, N. Y.).

The great majority of city seed stores. The great majority of commission packeters. These are the companies who get out the gaily colored packets displayed on racks in hardware, department and ten-cent stores, and at florist's shops.

INSECTICIDES AND FUNGICIDES

● NICOTINE

BEST BUY

Black Leaf 40. The most reliable 40% nicotine sulphate.

ALSO ACCEPTABLE

N.P.C. Nicotine Sulphate 40%. Not as effective as the above, but cheaper.

Nicotine Dust 2%. Not as efficient as spray, but good in hot weather.

● PYRETHRUM

Pyrethrum, a non-poisonous contact insecticide, must be fresh to be effective, and should be substituted for rotenone wherever possible. Old tough insects may recover from a dose of pyrethrum, so get them young, or gather them up and destroy them after they have been stunned.

BEST BUYS

Multicide. First choice of pyrethrum sprays.

Pyrocide Dust No. 10. (0.2% pyrethrins) and **No. 7** (0.15% pyrethrins).

Cornex. A pyrethrum oil for corn ear worm. The best remedy. For accurate application use a Cornex gun.

ALSO ACCEPTABLE

Red A Pyrethrum Powder; Black Arrow Insect Dust 5000; Red Arrow Garden Spray.

● ROTENONE

Rotenone sprays and dusts act both as contact and stomach poisons for insects and are non-poisonous to humans. Rotenone is selective as to the insects it can kill and may require up to 48 hours to take effect; it may be left on plants for 3 or 4 days before it loses its effectiveness as a stomach poison. The dust is not as effective against aphis and leafhoppers as the spray solutions, but for other purposes, dust is preferable. It will keep a long time if stored in an air-tight receptacle away from the light. By government order rotenone may be used only on broccoli, cauliflower, brussels sprouts, beans, peas (for weevil only) and sweet corn (for corn borer only).

BEST BUYS

Rotenone Greenhouse Spray; Serrid Super Agricultural Spray.

Unbranded Rotenone Clay dusts. Preferably fresh and mixed on order.

ALSO ACCEPTABLE

Foliafume; Sea Green; Bug-a-Boo Garden Spray; Green Tox.

Rotecide; Kubatox Liquid. These sprays, though not so effective against resistant insects as the "Best Buys" are acceptable for ordinary use.

Rotecide dust.

● STOMACH POISONS AND BAITS

All stomach poisons except rotenone are poisonous to human beings. Baits are very poisonous. Use extreme care in handling and storing them and keep children and animals away from the garden when they are being used. Arsenicals and fluosilicates (Cryolite) should not be used on anything that is to be eaten.

BEST BUYS

Apex Ant Killer (Clean Home Products, Inc., Chicago). Thallium sulfate in an efficient, safe, container. The best ant bait. Cover openings with tape when not in use.

Homemade Paris Green bait for cutworms, slugs, grasshoppers or crickets, see p. 104.

ALSO ACCEPTABLE

Antzix (Bonide Chemical Co., Utica, N. Y.).

Magikil Ant Jelly; Lethelin Jelly; Tat. Thallium sulfate.

Antube sodium arsenite. not so efficient, but also less poisonous than the above.

NOT ACCEPTABLE

Antrol; Snarol (baits). Inefficient.

Hellebore; Dutox; Barium Fluosilicate; Cryolite; Lead, Magnesium and Calcium Arsenates.

● COPPER FUNGICIDES

Copper is slightly poisonous. Therefore wash carefully vegetables on which copper has been used. Wash sprayer after using copper.

BEST BUYS

Fixed Copper Dusts: Cuprocide, Metrox Red Copper Oxide, or Redoxide, used for seed treatments and dusting plants.

Homemade Bordeaux Spray. Dissolve 2⅔ tablespoons of *powdered copper sulfate* in a little water; stir 6 tablespoons *hydrated spray lime* in a little water; combine and add water to make one gallon. Use at once; throw away surplus spray. If used to supplement a copper dust, but not to take its place, 5 lb. of each ingredient will be enough even if potatoes are grown.

ALSO ACCEPTABLE

Dry Bordeaux Powders: Orchard Brand. Acme Bordeaux, Bordow, Copper-Hydro Bordeaux, Niagara Bordeaux, Oxo-Bordeaux. These ready-made Bordeaux are not so efficient as the homemade, but novices will find them conve ient.

Copper-Lime Dust 20-80. Displaced by the fixed copper dusts, which are less damaging to foliage, but O.K. for celery and potatoes.

● COMMERCIAL MIXTURES

These dual or all-purpose mixtures are wasteful whenever only one of the ingredients is active, so that their manufacture is being discouraged this year. However, they are convenient, and there are some left-over stocks.

ACCEPTABLE

Copper-rotenone dusts. Very generally useful for insects and disease.

Pyrote. Pyrethrum and rotenone.

DX Nicotine. Pyrethrum and nicotine.

NOT ACCEPTABLE

Pyrox; Acme All Round Spray. Contain lead arsenate.

SPRAYERS AND DUSTERS

Good care will lengthen the life of a sprayer. Wash out thoroughly each time it is used.

BEST BUYS

Handy Box Duster (Clean Home Products Co., Chicago). Made of cardboard, cheap. Buy at least four if you have no sprayer. (No longer made, but may still be available in stores.)

Feeny; Pomogreen; Eastern States; or Hudson dusters. Plunger type.

Smith Banner Open Top Compressed Air Sprayer (D. B. Smith, Utica, N. Y.). 3 and 4 gal. Perhaps the best type of sprayer for most people.

ALSO ACCEPTABLE

Smith Blizzard Hand Sprayer. 1 qt. Good for about one year.

Sprayit GV7 (Electric Sprayit Co., South Ind.). 1 qt.

Champion Sprayer (Champion Sprayer Co., Detroit). 5 gal. First choice of knapsack sprayers—good, but heavy.

Siren Knapsack Sprayer (E. C. Brown).

NOT ACCEPTABLE

Most Small Hand Sprayers will not last through one season without leaks.

Antipestik. Arnold and Insectogun Hose Sprayers. None of these can be recommended for general use.

CUMULATIVE INDEX

Each issue of the Reports contains this cumulative index of principal subjects covered since publication of the 1943 Buying Guide issue. By supplementing the Buying Guide index with this one, members can quickly locate current material and keep abreast of changes resulting from new tests. Page numbers run consecutively beginning with the January 1943 issue. Jan. 1-28; Feb. 29-56; Mar. 57-84; Apr. 85-112.

Reports starred replace material in the 1943 Buying Guide.

FOR THE PEOPLE

FTC complains of Old Gold advertising

Tall oaks from little acorns grow.

THE ACORN. Last July the *Reader's Digest* published an article on cigarette advertising, based on laboratory tests of seven brands performed for the *Digest*. The tests did show minor differences between brands. Each *Old Gold* was found to contain 16 milligrams less nicotine and 15 milligrams less tar than the next lowest brand. But as the *Digest* concluded from the laboratory report:

"The differences between brands are, practically speaking, small, and *no single brand is so superior to its competitors as to justify its selection on the ground that it is less harmful*" [italics—The *Digest's*].

CU's Comments

At the time, CU commented on the *Digest's* report, stating that it seemed a fair one. CU also commented on the *Old Gold* advertising campaign provoked by the *Digest* article. Said the July *Reports*,

> "*Old Gold* did fare well. The tests showed less nicotine and tars in *Old Gold's* smoke than in the smoke of any of the six other brands tested. The only thing that *Old Gold* overlooked in its mad dash to the advertising columns was the *Digest's* conclusion that the differences between the most and the least were too slight to mean anything.
>
> ". . . we think it [the *Digest*] should have refused to let *Old Gold* prostitute its findings, as we refuse to let advertisers prostitute ours. Since it apparently didn't only the expected happened."

THE GROWTH. The expected advertising campaign not only happened but, as months went by, it grew into mammoth proportions. Using about six times as much newspaper space as it had bought the year before, with a liberal accompaniment in all other advertising media, *Old Gold* cashed in on the *Digest* report. "Lowest in nicotine, lowest in throat-irritating tars and resins, as shown by unbiased, independent unsolicited tests of 7 leading brands—made for *Reader's Digest*," the ads proclaimed. But, significantly enough, *Old Gold's* advertising department spent not a single cent reporting the *Digest's* conclusion that no single brand is so superior as to justify its selection on the ground that it is less harmful. And *Old Gold's* cigarette production has increased about 60 per cent since 1941—largely, it may be assumed, as a result of its vast campaign based on the *Reader's Digest* article.

THE OAK. The Federal Trade Commission does not look with favor on the process of growing insignificant statistics into tall advertising stories. So, recently it issued a complaint against P. Lorillard Company, Inc., manufacturer of *Old Golds*, condemning, among other advertising slogans it has used, its campaign based on the *Digest* tests. FTC scores Lorillard for its errors of omission in quoting the magazine's report, then goes on to show that "the representations which respondent [Lorillard] has made concerning the content of nicotine, tarry matter and other harmful substances in its cigarettes and the smoke therefrom are false and deceptive, and mislead the public into erroneously believing that respondent's cigarettes are less injurious, when smoked, than are other and competing brands of cigarettes."

FTC's Facts

These are the facts brought out by FTC in its report on the case:

According to the laboratory tests reported by *Reader's Digest*, the amount of nicotine in the smoke of *Old Golds* averaged 2.04 milligrams per cigarette, while the amount in the two brands next on the list was only slightly higher, 2.20 milligrams. The figure for the cigarette having the largest nicotine content was only 3.02 milligrams. FTC shows how utterly insignificant these differences are by translating them into ounces. The average nicotine content for the *Old Golds* tested was 1/177,187 of an ounce less than the two next-lowest brands, and only 1/28,928 of an ounce less than the brand with the highest average nicotine content!

As for the claim that *Old Gold* is lowest in tars, FTC states that the smoke of *Old Golds*, according to the *Digest's* figures, contains only 39/100 of 1 per cent less tars than the cigarette shown to have the largest amount of tars.

Even these minute differences are will-o'-the-wisps, as FTC proceeds to prove. The many variable factors involved in the growing, blending and processing of cigarette tobacco and in the packing and handling of cigarettes make it impossible for the manufacturer to produce a large volume of cigarettes with a standard content of nicotine and other substances. Says FTC:

"In truth and in fact, the differences in the content of nicotine . . . are so minute as to be insignificant and undetectable from the standpoint of the effect which such substances have on the smoker of respondent's brands. . . ."

CU's Tests

CU's published the results of tests on the nicotine content of various brands in 1938. A few years ago CU performed taste tests on leading brands of cigarettes. In 1941 a member of CU's technical staff appeared as a witness for the United States Government when charges of monopoly were brought against the "big five" cigarette makers—the makers of *Old Gold* included. In the presence of *Old Gold's* attorneys and witnesses the staff member described CU's tests and conclusions—that "most people are not able to identify the brands of cigarettes when they are handed these cigarettes with the names concealed. . . ."

But even if Lorillard might be conveniently forgetful of the past, there is still the issue of what is a factual report. It seems obvious that half a fact ceases to be a fact. And since all the differences shown up by the *Digest's* figures were admittedly insignificant, it could hardly be called factual reporting to attach significance to such differences.

But *Old Gold* cashed in on the reading public's awe of statistics. "Figures can't lie," to be sure. But used out of their proper context—as FTC finally caught *Old Gold's* doing—the other half of the old adage begins to apply: "Liars can figure."

HEALTH AND MEDICINE

DO YOUR FEET HURT?

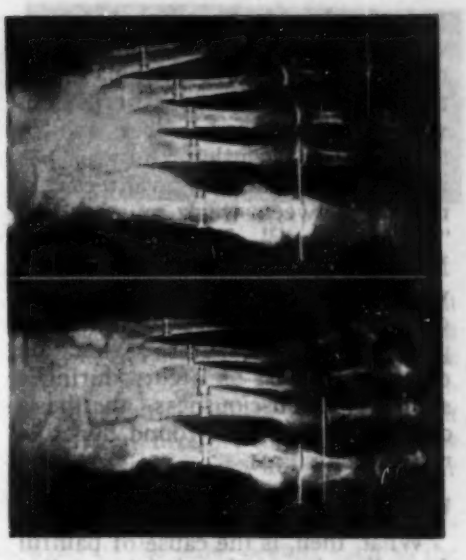
Contrary to popular belief, most foot troubles are not caused by poorly designed shoes. In this article, CU's consultant explains the causes of swollen joints, calluses, aching muscles, and tells what can be done to correct these disorders

Dr. Dudley J. Morton, upon whose work this article is based, became interested in foot disorders while serving in the last war. Following his discharge from the Army, he became associated with the American Museum of Natural History, in research on the evolution of the foot. He was later appointed to the Department of Surgery of Yale, where the facilities of the University were placed at his disposal for clinical studies of foot disorders. In 1929, Dr. Morton was appointed to the Department of Anatomy of the College of Physicians and Surgeons, Columbia University, where he is currently an Associate Professor of Anatomy. Dr. Morton is the author of two books: "The Human Foot," published as a text, primarily for the medical profession; and "Oh, Doctor! My Feet!", a summary of theories and treatments for non-medical readers.

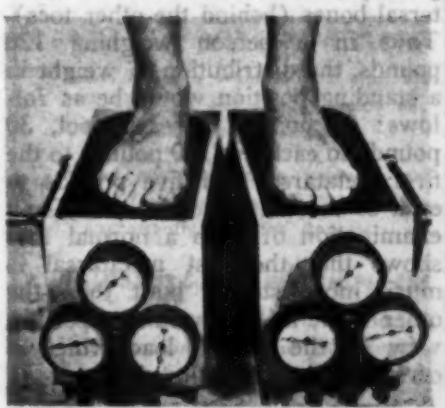
When you consider how many persons are afflicted with "foot trouble," it is remarkable how little is known about the real causes of foot disorders. Men and women suffering from corns, callus growths, "fallen arches" and the like generally become more or less resigned to their fate of having "bad feet"; if they rebel against this situation at all, it is usually only in their determination to see that their children do not suffer as they have—a determination that frequently results in little more than the purchase of expensive, but not necessarily well designed, orthopedic or "health" shoes.

For the past twenty or thirty years it has been the commonly accepted belief that most foot troubles are caused by either badly designed shoes or weakened muscles. These two things supposedly caused fallen or weak arches, flat feet, the growth of painful calluses, etc. Since most painful callus growths occur in the metatarsal region, it was believed that there existed a metatarsal arch, the "falling" of which brought on foot disorders.

Investigations by Dr. Dudley J. Morton and others into the functioning of the bones, muscles and ligaments of the feet have indicated that these rather widely accepted ideas about foot trouble are lacking in factual basis. Discussing first the problem of badly designed shoes, Dr. Morton points out that while shoes that do not fit may cause corns or displacement of the toes, they will not directly affect the foot function or "break down" the arches. The only exception is the high heeled shoes worn by some women. These, Dr. Morton says, are unquestionably harmful, especially when worn continually. Most shoes for men and children, however, and some of the more conservatively designed shoes for women are constructed more closely along anatomic lines. In other words, shoes can be purchased which will do your feet no harm. But they cannot be relied upon to rid the foot of internal disorders.



THE IDEALLY DESIGNED FOOT—*(top) has the first two metatarsals extending forward the same distance (as indicated by the white line), with the first twice as wide as the second. Also, all four outer metatarsals are the same width. When the first metatarsal is too short, as the short white line in the lower x-ray picture shows, too much weight is concentrated on the second metatarsal. Research shows the result is not "fallen arches," and that the widely sold "arch supports" will not remedy the condition. An individually designed "compensating insole" is one means of correction.*



A STATICOMETER. *Each of the two platforms of the staticometer is divided into three sections: a plate for the heel, and two more plates for the fore part of the foot. By varying the number of metatarsal bones supported upon the different plates, the amount of weight borne by each metatarsal segment can be determined.*

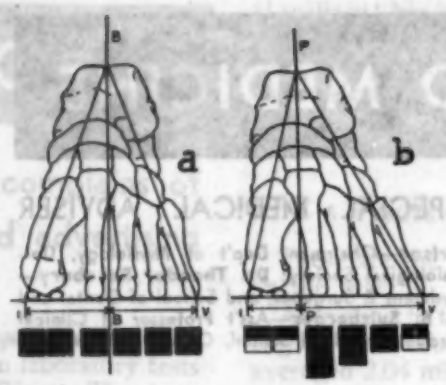
As to the second point, that muscular weakness causes weak ankles or flat feet, extensive examination of the muscles of the foot in persons with well-developed arches and of those born with little or no arch has indicated that there is no direct connection between weak muscles and "weak arches." Furthermore, Dr. Morton has pointed out, if arches were supported by action of the muscles, the normal arch of a normal person would fall with the relaxation of muscles such as occurs during a state of unconsciousness, anesthesia or sleep. It has been found that this never occurs.

WHAT CAUSES FOOT DISORDERS?

What, then, is the cause of painful foot disorders—of painful, swollen joints, sensitive thick calluses, excessively tired, aching muscles? To help answer this question a machine called a staticometer was developed to determine just how the weight of the body was supported by the various portions of the foot in normal and abnormal conditions. Tests made with the staticometer indicated that in the normal standing position, with half the body weight supported by each foot, the weight was divided so that half the weight supported by each foot was carried by the heel and the other half was distributed among the metatarsal bones. Of this the normal distribution was found to be two parts supported by the first metatarsal bone (behind the big toe) and one part by each of the other four metatarsal bones (behind the other toes). Thus in a person weighing 120 pounds, the distribution of weight in a standing position would be as follows: 60 pounds to each foot, 30 pounds to each heel, 10 pounds to the first metatarsal and five pounds to each of the other metatarsals. X-ray examination of such a normal foot shows that the first metatarsal is much more stoutly built than the other four, as you would expect in view of the greater load which it carries.

EXTERNAL SIGNS

The two most common external signs of foot disorder are (1) an unbalanced posture accompanied by a rolling-in or "pronated" condition of the foot—so-called "weak ankles"—and (2) callus formation on the sole of the foot behind the second and third toes. *Both of these signs indicate that something is wrong with the first metatarsal bone*—the one that ordinarily carries twice as much weight as any of the others. One type of impairment of the function of the first metatarsal results from a looseness of the joints and the ligaments which bind it to the foot. When such a looseness of the ligaments occurs, the first metatarsal, like a loose leg on a chair, will not support its full share of the body weight, with the result that the ratio of weight borne by the metatarsals—instead of the normal 2, 1, 1, 1, 1—may be 0, 3, 2, 1, 0. As a result of this abnormal concentration of the body weight on the second and third metatarsals, the foot tends to roll inward, or pronate, thus giving the typical appearance of what is called "weak ankles." It is like the collapse of a chair toward the side of the loose leg.



WEIGHT DISTRIBUTION — *Figure A shows normal weight distribution on the metatarsal bones indicated by equal-sized black squares; ratio, 2, 1, 1, 1. Figure B shows uneven weight distribution on the metatarsals, caused by faulty foot structure. Weight is concentrated on the second metatarsal.*

PAINFUL CALLUS *is formed when the brunt of the body weight is borne by the second metatarsal. The shaded circle in the picture indicates the characteristic point of deep tenderness in the sole resulting from the unusual strain on the bone and its ligaments.*

Instead of being merely loosely attached to the rest of the foot, the first metatarsal segment may be abnormally short from birth. This condition often occurs in families. In a normal foot, the first and second metatarsal segments are approximately the same length. Thus in walking, when the heel is raised, the weight of the body is supported to a large extent by the ends of the first two—the longest—metatarsals. However, if the first metatarsal is short, the brunt of the weight of the body is borne by the second metatarsal alone—a weight which exerts a strain upon the bone and its ligaments. The strain and excessive load upon the second metatarsal causes intense pressure upon the skin beneath the bone. This results in the formation of painful calluses.

SHIFTING OF BODY WEIGHT

What else may happen if your first metatarsal segment is too short, or is loosely bound by its ligaments? There will be a tendency for the foot to roll in with the result that the body weight is shifted toward the inner side of the foot. This shift of body weight causes an increased strain on the muscles of the ankle and calf; the muscles resist the unnatural strain and attempt to shift the exaggerated load back on the metatarsal segments. This results in aching, spasms, and exhaustion of the muscles and the foot. The additional load that the second metatarsal bone has to bear tends to weaken and loosen the ligaments of both the second and third metatarsals. The longitudinal (heel to toe) arch, no longer properly supported by the now weakened ligaments of the first, second and third metatarsals, begins to flatten out, thus shifting the body weight even further. The process continues until ultimately not merely the ligaments may be affected, but the joints, the muscles, nerves and blood vessels of the foot and leg may become disturbed or inflamed.

There is one condition which exists

outside the foot itself that may cause a foot disorder. This is a shortening of the calf muscles which reduces the range of movement up and down from the ankle. This condition often develops in women through continual use of high heels. It may also follow a prolonged illness in bed, in which case the extended inactivity results in the shortening of the calf muscles.

TREATMENT OF FOOT DISORDERS

Foot disorders of the kinds described are not too difficult to treat successfully. A competent physician who recognizes that the real causes of these foot disorders are associated with a defective first metatarsal segment, can not only relieve the superficial irritations and the deeper inflammations of the joints and ligaments, but he can also prescribe the types of supports that are necessary to prevent a recurrence of the painful conditions.

The first step in treatment is usually to remove all surface elements causing discomfort—painful calluses, corns, or other skin growths. Removal of such growths should not be attempted by the layman; your physician will determine the best method for their removal in accordance with the nature of the particular type of growth.

The second step is to relieve and repair the deeper inflammations. Prolonged suffering from the various conditions described can and frequently does result in great strain on all portions of the foot. Rest of the feet and stimulation of the circulation are the most fundamental means of restoring the strained muscles, irritated nerves and tissues. Dr. Morton recommends "contrast plunges" for this purpose—plunging the feet first in hot water for one and one-half minutes then in cold water for one half minute. The hot water should be as hot as can be borne. This process should be repeated five times and then followed by a brisk rub with a stiff towel. A half hour of reclining immediately afterward is desirable. Such contrast plunges should be taken at least once a day, preferably right after work.

EXERCISES

Light exercises may be useful in this phase of treatment, but only for the purpose of improving the circulation—not building up weak muscles, for, as Dr. Morton's studies have shown, weak muscles are not involved here.

The most important part of the corrective treatment is to rectify the disordered mechanical set-up of the foot, compensating for the functional deficiency primarily centered in the first metatarsal segment. This can be done by a special type of insole[1] designed to correct the distribution of body weight upon the metatarsal bones.

INSOLE

The chief element of this insole is an elevated portion that causes the first metatarsal bone to carry its full load of the body weight. The change in function created by such an elevation compensates for defects within the foot, and acts in much the same way that properly fitted glasses do, by compensating for defects that exist in the eye.

It must be remembered that some orthopedists are still of the opinion that most foot disorders are caused by faulty shoes or by weak muscles. This brief analysis of some of the more recent developments in orthopedics may help you to determine what medical practice can do for your foot troubles.

[1] Purchased through physicians or professional channels from Professional Research Products, Inc., 2929 Broadway, NYC.

MEDICAL NEWS AND VIEWS

Night Vision

The Red Army has done a great deal of fighting and scouting at night. Consequently, Soviet doctors and physiologists have done much experimenting in the field of night vision in an effort to contribute new sharpness to the eyes of their fighters.

They discovered that the sensitivity of the sense organs such as the eye is affected by the state of fullness of the stomach, the intestines and the bladder. It is important in night reconnaisance operations, they found, that the fighter, scout or pilot avoid anything that would cause congestion of the organs such as large meals, failure to move bowels or failure to urinate.

The pheomenon of "conditioned reflexes" has also been used to increase the sensitivity of the eye to darkness. It was discovered that the sensitivity of night vision is one of the most fluctuating factors of the

human organism and that it is possible "by selecting suitable stimuli for other sense organs sometimes to increase the sensitivity of an eye already adapted to darkness to maximum by another 40-50%" [1]

Soviet doctors have thus added much new information that will help increase the efficiency of our armed forces. The exchange of medical information among the United Nations will help shorten the war as well as promote unity among the nations.

[1] *War Medicine*, (published by American Medical Ass'n), February, 1943.

ADS: FACTS AND FANCIES

Hot Lemonade

The California Fruit Growers Exchange, through an extensive advertising campaign, is urging the public to consume lemons as a remedy for colds.

Besides their value as a flavoring agent, lemons are, it is true, an excellent source of vitamin C. But is there any evidence that vitamin C—whatever its source—will prevent or cure colds? Not the slightest. Hot lemonade may or may not be "almost universally prescribed," but it doesn't help throw off a cold.

The chief virtue of hot lemonade is that it is hot. For that reason it may give temporary relief from congestion or a "tickling" sensation in the throat. But hot tea or hot milk, or any other hot beverage will have the same effect.

Say the ads, "Fresh lemon juice is one of the richest known sources of vitamin C, which combats fatigue. It is a primary anti-infection vitamin." The ads do not say that fatigue has many causes; that fatigue caused by diet deficiency is almost never the result of a deficiency of one vitamin but of many vitamins. Furthermore, vitamin C is *not* "a primary anti-infection vitamin." All vitamins play a part in resistance to infections, and vitamin C has not a "primary" role.

Finally, hot lemonade is not the most economical way of supplying vitamin C. Oranges, grapefruit and raw cabbage are all excellent sources of the vitamin. Not only are these foods frequently cheaper in price than lemons, but they can be served as integral parts of a meal. Serving a small glass of orange or grapefruit juice or a larger glass of tomato juice, or half a grapefruit, will supply all the vitamin C you need, without between-meal doses of lemonade.

LABOR

CHILDREN'S SHOES

Two unions are active in the field of shoe manufacturing, the Boot and Shoe Workers' Union (AFL) and the United Shoe Workers of America (CIO); yet only a few of the retail brands CU tested can definitely be listed as union-made.

Under contract with the Boot and Shoe Workers:

Classmates (Ideal Shoe Mfg. Co., Milwaukee).

Pedi-Poise (J. Edwards & Co., Philadelphia). The company reports that the average number of employees in the plant is 450. Their standard work week is 40 hours; they work an average of 50 weeks per year. The minimum weekly wage is $16.

The following brands are union-made, under contract with the United Shoe Workers:

Indian Walk (S. Waterbury & Sons, Brooklyn, New York; distributors: Footform Shoe Shops, Inc., NYC). S. Waterbury & Son reports that the average number of employees in the plant is 150. Their standard work week is 40 hours; they work an average of 50 weeks per year. The minimum weekly wage is $18.74; the average weekly wage is $34.

Buster Brown (Brown Shoe Company). This is one of the four largest shoe manufacturers in the country; it has plants scattered throughout the midwest. Some but not all of these plants are organized by the United Shoe Workers.

The following brands are not union-made:

Kalisteniks (Gilbert Shoe Co., Thiensville, Wis.). The company writes that the average number of employees during the current year is about 200; the standard work week is 40 hours; employees work 51 weeks per year, with one week's vacation. The minimum weekly wage is $16. for learners; the average weekly wage is $34.45. The workers are organized into an employees' association called the Shoe Workers Benefit Association of the Gilbert Shoe Company.

Pavement Pounders (Melville Shoe Corp., Nashua, N. H.; distributor: Thom McAn, NYC).

The following brand names are owned by retail firms who do not manufacture shoes. Some of them own their own lasts and patterns, but all obtain their shoes from many sources, which may or may not be operating under union contracts. The sources change from time to time, and their names are not available:

Coward, Educator, Macy's Right Shape, Pediforme, Sears Roebuck's **Sandy Nevin, Jr.**

CANDY

Minimum wages of 40¢ an hour became effective on March 29 for workers engaged in manufacturing candy and related products. The order was issued by the Wage and Hour Division of the United States Department of Labor after a committee appointed by the Division had investigated and reported on conditions in the industry.

The wage minimum applies to the production of stuffed fruits, candied, crystallized or glazed fruits and fruit peels, candied popcorn, salted, sugared or roasted nuts, chocolate and cocoa products, marshmallow creme and chewing gum. Shelling and cleaning of nuts are excluded except where these operations are performed in plants that do further processing of nuts.

Two weapons for the home front . . .

Here's a way to make your *Reports* work for you at top efficiency.

As each issue comes, put it in this handsome, black leatherette binder. Then it will be in its proper place, along with all the other issues you've received this year.

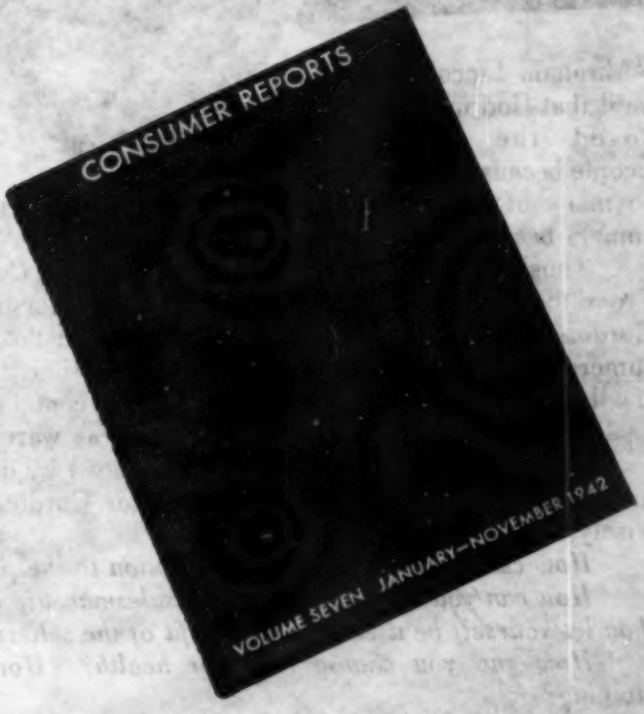
No more misplaced copies . . . no more incomplete files. As you put in each new issue of the *Reports,* you have an up-to-date file, complete with cumulative index.

Order your binder now—while you're thinking about it. The price is 75¢.

While we're talking about handy, complete, ready-reference files of the *Reports,* we want to remind you that a bound volume of the 1942 *Reports* is something well worth having. If you don't already have a complete set for the past year, this volume is definitely a *must* for your consumer library.

A great deal of material in the volume—as well as in previous volumes beginning with the May, 1936 issue—is just as useful now as on the day it was printed. Included is material of permanent value on how to buy, how to take care of the things you have, as well as valuable information on health and medicine.

Order these weapons for consumer victory today.



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LELAND J. GORDON

CONSUMERS IN WARTIME

A GUIDE TO
Family Economy in the

HARPER & BROTHERS · EST

"Abraham Lincoln once said that God must have loved the common people because there are so many of them. Lincoln might have said the same thing about consumers because there are even more of them. . . ."

Thus, Leland Gordon opens his new book, *Consumers in Wartime*. From that point on, through 154 easy-to-understand pages, Professor Gordon gives readers valuable information on the way to be good consumers, as well as satisfied ones, during wartime. (As a matter of fact, if all of us were to follow the sound advice contained in this book, we'd be better consumers in peace time as well as wartime.)

Now, more than ever, consumers are beset by difficult problms. Here are some of the questions which Professor Gordon answers clearly and wisely in this timely volume:

How can you judge quality in relation to the prices of commodities?

How can you use advertising and salesmanship for your benefit rather than let yourself be used for the benefit of the sellers?

How can you choose food for health? How should you choose clothing?

How can you budget your expenditures without becoming a slave to the budget?

What are the ways to get the facts before you buy? Having obtained the facts, how can you make the best use of the information?

How can you stop waste, make your clothing last, use your car carefully?

Throughout the book, the author lists titles of pamphlets and books, names of agencies and organizations, through which additional information can be obtained on specific consumer problems.

Consumers in Wartime will help you do your job as a consumer by showing you how to appraise your buying practices in the light of wartime developments. It will show you how to make changes in your habits which will help the nation fight the war.

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ABOUT THE AUTHOR

LELAND J. GORDON was born in Janesville, Minnesota in 1897. He received his degree of B. S. in 1922 and his Ph. D. in 1928, both from the University of Pennsylvania.

Dr. Gordon was an instructor in the economics department at the University of Pennsylvania from 1923 until 1929. At the end of that period he spent one year in Turkey as a Penfield scholar, returning to take up his duties at the University of Pennsylvania, this time as Assistant Professor of Economics.

In 1931, Professor Gordon joined the faculty of Denison University in Granville, Ohio, as Professor of Economics and Head of the Department, which post he holds at the present time.

Professor Gordon is a member of the Board of Editors of the Consumer Education Journal; he is also the author of the well-known book, Economics for Consumers, and a member of Consumers Union's Board of Directors.

The regular edition of "Consumers In Wartime" is published by Harper and Brothers. It sells in bookstores, for $1.75. Copies are available to CU members at the special price of $1.